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THE UNIVERSITY OF ALBERTA

AN ANALYSIS OF A MAINSTREAMED PHYSICAL
EDUCATION ENVIRONMENT

by

LEANNE ELIZABETH SQUAIR



A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF SCIENCE

DEPARTMENT OF PHYSICAL EDUCATION AND SPORTS STUDIES

EDMONTON, ALBERTA

FALL 1987

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(SIGNED) *Leanne Squair*

PERMANENT ADDRESS:

28 Middlegate
Winnipeg, Manitoba
Canada

DATED: *September 11, 1987*

" Learning is a shared activity
between teacher and student "

Martin Wedepol
University of Manitoba
Dean of Engineering
1974-1979

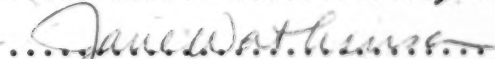
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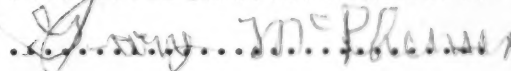
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DATE *September 11, 1987*

DEDICATION

This thesis is dedicated to Betty & John Morton
and Nancy & Frank Squair who always encouraged
the importance of knowledge and education to
their children and grandchildren.

ABSTRACT

With the passage of the Warnock Committee's Report in Great Britain, Public Law 94-142 in the U.S., and Bill 82 in Ontario, there has been an increased demand on physical education teachers to accommodate an increasing diversity of students' special needs.

There is an increasing number of physically challenged students attending regular physical education programs in Canadian schools. The purpose of this study was to examine some of the problems that exist when mainstreaming physically challenged students into regular physical education programs in schools in northern Alberta. The major areas that were identified were teacher and student attitudes toward the physically challenged, the factors affecting the participation of physically challenged students in physical education and the educational preparation of the teachers instructing these students in regular physical education programs. Fourteen teachers were interviewed and the results from these sessions indicate some of the problems that exist in mainstreaming students into regular physical education.

Teachers were very positive in their attitudes toward the physically challenged student in their physical education class, but lacked other important information.

Most teachers received very little background information on the student and thus were unaware of the disability they were dealing with or the medical problems associated with it. Even though all students participated to some extent in physical education, teachers had difficulty choosing and adapting appropriate activities for the physically challenged and the able bodied students they were instructing. They lacked the support personnel, the curriculum program materials and other resources they require in order that they could make adaptations and modifications to physical activities and skills.

The major focus of this thesis is the level of teacher preparation in the field of physical education programming for special populations. Most teachers felt unprepared and inadequate in their abilities to teach physically challenged students in regular physical education because of their lack of preservice and inservice training. Less than half of the teachers had degrees in physical education and all but three teachers had had no previous experience working with the physically challenged.

Because of the increasing numbers of physically challenged students in mainstreamed programs these problems must be addressed. Effective action by Alberta Education is required to enhance the participation and success of mainstreaming physically challenged students into the existing regular physical education programs.

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Chapter I

INTRODUCTION

There is an increasing number of physically challenged children attending regular physical education programs in Canadian schools (Bentz, 1985). Students should be receiving the most appropriate physical education program, regardless of his or her special needs. The primary aim of physical education is to assist an individual, "to develop an interest in physical activity as an essential component of an active, healthy lifestyle", (Alberta Education, 1983, p.5). Physical education should be an integral part of a student's affective, cognitive and physical development. According to Simard and Wall (1980) physical educators must provide opportunities for the physically challenged to benefit from participation in physical activities.

During the late 1950's and early 1960's an increasing interest in physical fitness in North America provided additional stimulus for physical education programs for the physically challenged (Sherrill, 1981). The Warnock Committee's Report in Great Britain, Public Law 94 - 142 in the United States and Bill 82 in Ontario, have led to increased demands on regular school staffs to accommodate an increasing diversity of students with special needs (Hummel et al, 1985).

In Britain, the Committee of Enquiry into the Education of Handicapped Children and Young People (Warnock Committee) was set up by the Department of Education and Science in 1974 to:

review education provisions in England, Scotland and Wales for children and young people handicapped by disabilities of body or mind, taking account of the medical aspects of their needs, together with arrangements to prepare them for entry into employment; to consider the most effective use of resources for these purposes; and to make recommendations (Warnock, 1978, p, 1).

In this report the concept of special education was broadened to include any child with a special need irrespective of its duration. The Committee also felt that under the existing law children were being categorized according to their disabilities rather than perceived in terms of educational need. Consequently, a recommendation that would abolish statutory categorization of handicapped pupils was put forward. It was felt that this would ensure appropriate provision in terms of educational need, regardless of the form and complexity of the handicapped.

In the United States during 1975, The Education for All Handicapped Children Act became Public Law 94-142 and reflected a major new commitment by the federal government to provide free appropriate educational programs for all handicapped children ages 3-21. The measure required each state to establish procedural safeguards that assure:

...to the maximum extent possible handicapped children will be educated with children who are not handicapped and that special classes, separate schooling, or other removal of handicapped from the regular educational environment occurs only when the nature of severity of the handicapped is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (United States Public Law 94-142, 1975, p.9).

As a result of Public Law 94-142, an individualized education program (IEP) must be developed for each handicapped child in consultation with the parents. An IEP is a written statement developed by a meeting of the local education agency which includes teachers, parents, handicapped children and others. The statement includes such items as present level of performance, annual goals, education services needed, initiation and completion dates and evaluation procedures. The educational program chosen

must be the least restrictive environment. The student must be placed in as normal a setting as he/she can prosper in and with able bodied children as much as possible. This law has influenced mainstreaming in Canadian schools.

In Ontario, The Education Ammendment Act of 1980, commonly known as Bill 82 was an Act to ammend the Education Act of 1974. It makes special education a definite responsiblity of all school boards. Bill 82 ensures:

1. Comprehensive access of all Ontario school age pupils to a publicly supported education, regardless of the pupil's special needs.
2. The provision of special education programs and services that meet the needs of exceptional pupils.
3. The involvement and participation of the parents or guardians of exceptional pupils in the assessment, identification and placement of such pupils, including the right to withhold permission for particular placement and the right to require a review of the pupil's placement at anytime.

The Canadian Federal Government's involvement was shown in the Obstacle Report of the Special Committee on the Disabled and Handicapped (1982). The following recommendations were made:

1. "that provincial Ministers of Education be encouraged to develop, for use in teacher training programs, course material and teaching aids about physical and mental disabilities.
2. that professional schools and faculties be encouraged to include course materials about disabilities.".

Education is a provincial responsibility in Canada. Each province has developed its own policies and guidelines regarding physical education and mainstreaming. The Alberta Curriculum (1983) states that all children should have the opportunity to experiment with and discover new movements within an environment that recognizes that individual differences do exist. Each physical education student should be provided with the opportunity to progress at his/her own rate, which implies an individual approach. There is no mention made in the existing Alberta Curriculum (1983) on how a physical education teacher should incorporate a physically challenged student into the regular structured physical education class, with other students. According to Watkinson and Bentz (1985), teachers that are provided with exposure to physically challenged students as well as knowledge about the various kinds of disabilities and activities may increase the participation level of physically challenged students in regular physical education programs.

STATEMENT OF THE PROBLEM

The purpose of this study was to examine some of the problems that exist in mainstreaming physically challenged students into regular physical education programs. The following questions were addressed in this study:

1. Is there a need for teacher support when students who use wheelchairs, braces or canes enter regular physical education programs?

2. What are the attitudes, knowledge, abilities and resources of teachers in the mainstreamed environment?

3. Do teachers require ideas and suggestions on mainstreaming, through resources, preservice and inservice programming?

4. Is there a need for adaptations to be made to the existing Alberta Curriculum (1983), so that physically challenged students can be integrated into the physical education program more effectively?

DELIMITATIONS

This study was delimited to the population of fourteen physically challenged students in northern Alberta schools.

The study was also delimited to the teachers who instructed the physically challenged student in physical education. Fourteen teachers, three females and eleven males, comprised this sample.

The students had mobility problems and required the use of a wheelchair, braces or canes. There were fourteen students in this sample.

LIMITATIONS

This study was limited by the representativeness of the sample of teachers instructing the physically challenged students physical education. It was limited to the participants in the 1984 and 1985 Children's Summer Wheelchair Basketball Camp, sponsored by the Alberta Northern Lights and the Research and Training Center for the Physically Disabled. This was an established intact group that information was gathered from, which may have resulted in certain biases.

The respondents may not have been truthful in their interview responses, but all efforts were made to develop a positive repaire with the person being interviewed and elicit truthful responses.

The sample is limited to individuals with representative characteristics and it may be skewed. These include differences in communicating, the ability to articulate ideas and feelings, memory, self-confidence, personalities and the background of the individuals.

DEFINITIONS

PHYSICALLY CHALLENGED

This term refers to any individual who has a permanent impairment of mobility. These individuals require the use of a manual wheelchair, braces or canes. This may include individuals with cerebral palsy, muscular dystrophy, spina bifida, amputation, spinal cord injuries, or other conditions (Bentz, 1985).

MAINSTREAMING

This term describes the placement of physically challenged students into regular educational programs. It describes a process of moving children towards non-segregated environments.

INTEGRATION

This is the placement of disabled individuals into the least restrictive environment. Physically challenged students were considered integrated if they were enrolled in special education classes which were housed in regular schools and were not self-contained classes primarily established for children with orthopedic needs.

AMPUTATION

This is the absence of a limb or a portion of a limb. This condition may be congenital, as the result of disease or injury.

CEREBRAL PALSY

This is a non-progressive disorder of movement or posture caused by brain damage that results in a lack of control of voluntary muscles resulting in paralysis, weakness or lack of coordination.

SPINA BIFIDA

Due to abnormal fetal development, the bones of the vertebral column fail to close, causing open defects in the spinal cord. The spinal cord covering and the cerebrospinal fluid protrude in a sac which is covered with a thin, transparent membrane. Possible associated conditions include flaccid paralysis of the trunk and lower limbs, bone deformities and hydrocephalus.

SPINAL CORD INJURIES

Spinal cord injuries usually result in paralysis or partial paralysis of the arms, trunk, legs or any combination depending on the point of injury to the spinal cord. Nerves from the spinal cord pass down into the segments of the spinal column and injury affects innervation of the nerves into muscles. The higher up the level of injury, the greater the restriction of the body movement. A paraplegic is an individual who has the legs paralyzed, while the quadriplegic has both arms and legs affected.

Chapter II

REVIEW OF LITERATURE

There is an increasing number of physically challenged students attending physical education classes in regular schools. There are a number of reasons for this. There has been a reduction of architectural barriers within the schools, with some schools being equipped with elevators, ramps and washroom adaptations. Advances in technology and increased availability of rehabilitation and retraining programs have allowed more children to move about more independently. Society's attitudes towards physically challenged children have also improved. There is an increased tendency for society to believe that how ever severely disabled a child is, he/she have a right to be accommodated in regular schools. Physically challenged children and their parents have become more outspoken and are making more demands on the school system. The majority of parents favor regular school placement for their children (Auxter, 1981).

It is normally understood that the physically challenged student be mainstreamed into regular physical education programs, so that he/she will be able to adjust more easily into the adult world in a number of different capacities because of frequent interaction earlier in life (Karper & Martinek, 1985).

The literature reviewed for this study was divided into three areas. Firstly, information concerning the attitudes of teachers towards physically challenged students and the attitudes of able bodied and physically challenged students towards one another was examined. Secondly, the factors affecting physical education participation were reviewed. These included the nature of physical activities and physical fitness, physical education adaptations and student placement along a physical education continuum. The final, but perhaps most important area of review was professional preparation of the teacher, which included preservice and inservice learning. The current concern is no longer whether or not to mainstream, but how to mainstream effectively and appropriately.

ATTITUDES OF TEACHERS AND STUDENTS TOWARD MAINSTREAMING

The last decade of information in the literature has been either in response to or as a result of the enactment of Public Law 94-142 in the United States. This law has had implications throughout North America and has been the basis for the policies in Canada in the area of mainstreaming. Article 13 in the International Covenant on Economic, Social and Cultural Rights of the United Nations was enacted in 1976. It recognizes the right of everyone to education and that primary education should be compulsory and free to all. Canada differs from the United

States in it's policies on mainstreaming because education is under provincial jurisdiction and there is no model bill which provinces could adopt or adapt to provide universal, free, appropriate, publicly-supported education for all children, regardless of their disabilities (Alberta Education, 1981).

There has been considerable progress made in the development of special education programs and in mainstreaming physically challenged students into mainstreamed programs, but there are still a number of problems involved in the total process.

An attitude is a consistent positive or negative predisposition toward certain persons and experiences. Attitudes determine how a person reacts to the environment (French & Henderson, 1984). According to these authors, attitudes that are positive are much more productive than negative attitudes. Individuals will be more apt to succeed if they have a positive attitude toward their goal.

The research that has appeared in the last decade has tended to concentrate on relating teacher attitudes towards specific identifiable teacher related variables. Supposedly, these variables are contributory in forming or influencing attitudes (Horne, 1979), but are by no means conclusive. Larrivee and Cook (1979) identified the inconclusive nature of previous research in this area and recognized the complexity of teachers' attitudes. They

attempted in their study to examine the effect of seven variables (grade level, classroom size, school size, type of school setting, degree of success with special needs students, level of support from administration and the availability of support services) on teachers' attitudes. The results showed that teachers were not influenced in their attitudes by class size, school size or type of school setting, but were influenced by grade level, level of support from administration and availability of support services. The most influential variable on attitude was the teachers' perceived degree of success with special needs students, which is a function of many variables such as: information level, knowledge attainment, specific skill attainment, specific skill acquisition, contact and experience with special needs students. (Larrivee and Cook, 1979). The degree to which these variables had an impact on a teachers' self-perception of effectiveness is not clear.

The most challenging area where mainstreaming occurs may be in the school gymnasium. Watkinson and Bentz (1985) found that although 73% of teachers surveyed favored mainstreaming, 46% of these teachers felt that physically challenged students would benefit more from placement in special physical education classes for physically challenged students only. This data infers that a majority of the teachers agree with the mainstreaming process, but a large number of them felt that mainstreaming was not

appropriate in physical education. Many physical education teachers tend to be very reluctant to incorporate these students into regular physical education classes (Kunc, 1981).

Teachers' attitudes are important to successful mainstreaming (Marston & Leslie, 1983), but there are a number of factors that also must exist for mainstreaming to be successful in an integrated physical education program. It is important that physical educators be conscientious and responsible in this environment (Clark et al, 1986).

Success is measured by individual standards and the quantification of what is meant by mainstreaming success is a major unresolved problem in the literature. The teacher, the student and the disability tend to cause specific individual attitude responses. Stewart (1980) states that in an educational setting success is an important factor to all students. Failure lowers an individual's self-concept, motivation and attitude toward the educational environment. Success will improve self-concept, enhance positive educational values and self and peer respect.

Sometimes if there is contact with or exposure to physically challenged students, positive attitudes will result (Bricker, 1978; Horne, 1979; Marston & Leslie, 1983; Sanche et al, 1982 and Santomier, 1985). This method has also been used successfully as a means of promoting

attitude modification. In a study done by Marston & Leslie (1983) more than two-thirds of the teachers agreed that able bodied students benefitted by having a physically challenged student mainstreamed into a regular class. The opportunity for exposure early in life to a physically challenged student in a mainstreamed environment may allay many of the fears of peers, parents and community that tend to form the basis of intolerance and impede progress toward the normalization of the physically challenged individual. This exposure and experience will lead to the development of more positive attitudes by the public (Bricker, 1978). Marston and Leslie (1983) expressed that exposure to physically challenged individuals will result in a more positive attitude toward the physically challenged, than will non-exposure.

For school aged children peer interaction is both necessary for and has the potential of influencing a student's behavior and attitudes. Through interaction able bodied students gain knowledge about a variety of disabilities. Mainstreaming in many school based programs may serve to keep the use of negative labels to a minimum, by not sending the physically challenged student off to a segregated environment for students with "special problems" (Bricker, 1978). Attitudes toward physically challenged students are influenced by the degree of contact with them. Able bodied students' attitudes can be changed towards a more positive peception of the

physically challenged as a result of an integrated school experience (Clark et al, 1985 & Rapier et al, 1972). It would be beneficial for students to be provided with the opportunities to become personally acquainted with one another and to share common educational experiences on a daily basis. Hopefully, if positive attitudes towards the integration of physically challenged students occurs at an early age, the ultimate acceptance and integration of the physically challenged in society as a whole will be enhanced.

Owens (1981) found that teacher attitudes have been a dominant force in creating peer acceptance in physical education. Their attitudes tend to greatly affect student attitudes toward one another. A teacher's attitude may affect how he/she relate to physically challenged students and their expectations concerning their performance in a mainstreamed environment can become self-fulfilling prophecies (Mosley, 1978 & Santomier, 1985). Physically challenged students need acceptance without feeling that they are being treated differently from others. The teacher has the power to control the variables related to the school curriculum, peer behavior and the learning environment. The attitudes toward the physical education experience in the educational setting evolves due to the complex interactions of students, teacher, content and instruction. The teacher is the primary influence in the educational setting because he/she is constantly

communicating, verbally and nonverbally, attitudes toward individual differences (Stewart, 1980). It is important to promote awareness and education about physically challenged persons, so that mainstreaming will have a positive base from which to build.

Teacher's negative attitudes are usually the result of lack of experience and direct contact with physically challenged students (Hundert, 1981). Inadequate information tends to foster negative attitudes. The lack of time to prepare for the individualization required to teach physically challenged students and the limited resources may contribute to the negative attitudes teachers may have. With a number of other students in the class who need attention, it is difficult to find the time to plan individual lessons. Because of negative attitudes teachers often choose not to plan lessons or adjust assignments for physically challenged students. Rizzo (1984) found that the attitudes of teachers from elementary to high school became less favorable because of the problems associated with the coordination and implementation of adaptations to the skill acquisition patterns, task analysis sequences and the motor development of physically challenged students in the physical education curriculum. Instructional and administrative problems exist in dealing with how to fit the lower skilled performers into the design of the curriculum. At elementary levels there is less discrepancy

in motor skills, but at the higher grade levels more competitive, sport dominated activities are present.

Attitudes are affected by a number of factors. Some of them are: the teacher's knowledge and experience, the students' personality and disability, the grade level of the student, and administrative support. These factors may stand on their own or be interrelated.

Encouraging the mainstreaming of physically challenged students, along with providing information to schools about integration, will serve as an effective means of establishing and increasing knowledge and acceptance of physically challenged persons (Alberta Education, 1981). According to Clarke et al (1985) and Rizzo (1984) a major problem confronting regular physical educators is their lack of knowledge about effective strategies, which are important in dealing with negative attitudes in their classrooms. It is important to find methods to teach physical educators the knowledge and skills to work with physically challenged students and to enhance positive attitudes toward them.

It is imperative that teachers receive encouragement and support from their administrators. Teachers alone do not have the resources to maintain integrated services successfully. Hummel et al (1985) revealed that there may be a reciprocal influence of teacher attitudes toward mainstreaming and teacher confidence with perception of success with mainstreaming students. Teachers who feel

supported in their efforts to teach physically challenged students, who have knowledge in adapted physical education and who feel confident in their ability to teach (Santomier, 1985), have more favorable attitudes. Physical educators must be involved in appropriate class experiences that have a positive effect on their attitudes. Mainstreaming programs should be comprehensive and carefully designed, with a focus toward the development of positive attitudes (Horne, 1979). It must be remembered that since attitudes are learned they can be changed.

Santomier (1985) suggests that if physically challenged students are to be successfully mainstreamed into regular physical education programs, the attitudes of physical educators towards them should be a major concern of preservice and inservice educational programs. Physical educators should receive inservice training designed to ensure the successful mainstreaming of students into physical education (Rizzo, 1984). The most efficient way to enhance teachers' attitudes is to provide them with information, contact experiences and knowledge about the physically challenged. Horne (1979) found that those teachers that participated in instructional sessions and in planning sessions, taught the students, and attended parent meetings had more positive attitudes. Physical educators who had attended inservice training sessions or workshops that provided them with verbal and written

information and other assistance in working with physically challenged students had significantly better attitudes toward mainstreaming than those who had not attended (Clark et al, 1986).

Marston and Leslie (1985) identified that the use of resources in conjunction with the current educational emphasis on mainstreaming should produce a more positive attitude or perception toward the mainstreaming process in teachers who instruct physically challenged students, than in those who do not. Also, these authors found that 76% of the teachers who were teaching these students believed that they were doing an effective job of teaching in the mainstreamed setting. If awareness activities can positively influence teachers to provide meaningful experiences to all students, then we are challenged to utilize these activities in preservice and inservice training. Administrators should be prepared to guarantee the financial support necessary to assume quality education to all students and to offer a number of support services to the teaching staff.

In summary, the literature indicates a number of variables dealing with the attitudes towards mainstreaming physically challenged students into regular physical education. Public Law 94-142 states that physically challenged students must be educated in the least restrictive, yet appropriate environment. For some individuals to be taught in a mainstreamed environment

they may have to upgrade their abilities, in order that they will gain an appropriate education upon being mainstreamed. This means that mainstreaming is appropriate only for those that can deal with the environment and it is not appropriate for everyone. Lehr and Haubrich (1986) in a study found that milder disabilities are being mainstreamed successfully and mainstreaming is being expanded by judicial means to include more severe disabilities.

The literature reveals that successful mainstreaming is not viewed in terms of the most important variable, the student; but in terms of a number of secondary variables such as teachers', principals' and able bodied students' attitudes. According to Watkinson and Bentz (1985) teachers' attitudes are one in a number of secondary influences on mainstreaming. These secondary influences are themselves influenced by tertiary influences, which can also be secondary influences on mainstreaming. This interweaving of influence has not been appreciated by or cannot be captured by research literature, which by delimitations and quantification has to reduce and quantify variables to manageable proportions.

FACTORS AFFECTING PHYSICAL EDUCATION PARTICIPATION

As with attitudes there are a number of factors that affect the participation of physically challenged students in a mainstreamed physical education program. Fitness is a positive outcome of participation. Game and activity adaptations are required in a regular or adapted physical education program. These factors will be examined in this section. Regular physical education programs must be adapted for the majority of physically challenged students, so that they may actively participate. Physical education aims at preparing physically challenged students to become active individuals. Adapted physical education services enable physically challenged students to develop psychomotor skills needed for positive experiences in work performance, socializing, sport and leisure participation and general health and physical fitness (Churton, 1987). Karper & Martinek (1985) state that a primary component to successful mainstreaming lies with the teacher's ability to form positive and accurate expectations about the student's participation. The expectations should be flexible and reflect the student's ability level, as well as the demands of the activity. A physically challenged student should only receive a specially designed program when the severity and nature of the disability or the level of the skill development is so sufficiently lacking that the regular program does not adequately meet the student's need (Auxter, 1981). The ultimate goal in

adapted physical education is wherever possible, upgrade the student's skill level, so that he/she can be reintroduced into a regular physical education program. The educational program must allow for student participation within the mainstream to the fullest extent possible. Broadhead (1984) found that school districts can provide a more thorough set of educational opportunities for physically challenged students within a regular, rather than a separate school environment.

Students should be expected to participate to the limit of their abilities. A physically challenged student should be able to take part in many of the physical education activities within the boundaries of his/her limitations. Kunc (1981) stated that no student should be excluded from an activity simply because he/she cannot perform at the same level as the others in the physical education class. In physical education an activity should be set up so that students can respond at their own level and in their own way (Kunc, 1981). For example, instead of saying to a student "do 20 push ups", the teacher might ask the students to find as many ways as possible to crossing the floor, while travelling on both hands and feet.

The physically challenged participate in physical activity to a much smaller extent than able bodied persons (Bentz, 1985; Dickson & Perkins, 1985). This lack of participation may be due to medical problems associated

directly with the disability, embarrassment concerning participation in public, lack of confidence and skill attainment. According to Watkinson and Bentz (1985) 21% of physically challenged students attend classes where they participate in all the activities with able bodied students and 66% of the physically challenged students attended regular physical education class, but only engaged in some of the activities. Only 8.6% of the teachers stated that physically challenged students attended physical education, but did not participate. The nature of a physical activity may determine to what extent a physically challenged student can participate and be involved. The nature of particular activities facilitated full involvement or participation in a special role, while other activities did not (Bentz, 1985). Teachers were concerned with medical problems, the safety risks of all of the students in the class, difficulties in choosing activities that benefit all students and the difficulties assessing skills and abilities of physically challenged students.

According to Cooney et al (1986) mainstreaming physically challenged students into physical education programs should provide meaningful activities to all students. There are many benefits that are available to a physically challenged student in a mainstreamed program, as long as the environment is properly structured. Physical education provides a great opportunity for a

physically challenged student to develop physical and social skills. In a regular physical education program physically challenged students attempted more active and more social activities, than inferior or nonexistent programs (Dickinson & Perkins, 1985). The able bodied student, through participation with physically challenged students, may experience how he/she adapts to different situations, how he/she moves about with mobility aids and realize he/she also enjoys involvement in physical activity. This opportunity allows the physically challenged student to show others how he/she can cope with what able bodied persons sometimes think are insurmountable obstacles.

Physical education classes must acknowledge individual differences and provide opportunities for success in a variety of activity settings. The educational setting must be characterized by interplay, interaction and involvement (Winnick, 1974). Educational mainstreaming does not occur automatically, but requires effort, planning and the implementation of creative teaching strategies. Teacher attitudes and skills are crucial to the success of this process. Physical educators must be prepared (McClenaghan, 1981) and have the skills necessary to analyze and diagnose motor behavior of physically challenged students, design and implement experiences to facilitate remediating a motor impairment, use varied teaching styles that allow for individual differences and

communicate with the parents regarding the students motor ability. The best prepared and innovative teacher will have difficulty in meeting the demands of a class in which physically challenged students are mainstreamed. Assisting a physically challenged student to maximize their motor abilities is an extremely tiring and frequently frustrating task.

The state of the present physical education curriculum, evaluation techniques, standardized testing, professional preparation programs and inadequate individualized instruction are factors contributing to the problems of the participation of the physically challenged in regular physical education programs (Marston & Leslie, 1983 and McClenaghan, 1981). Physical educators are concerned with how to provide the physically challenged with the additional instructional time they need and still meet the needs of the other students in the class. There is such a great degree of skill heterogeneity which exists within a physical education class that it will aggravate the most capable of teachers.

McClenaghan (1981) found that physical educators often question the mass integration of physically challenged students into an already strained teacher environment, which lacks the support and resources necessary to provide a good program.

In summary, it was found that participation in mainstream physical education programs is a reality that carries with it many positive components such as increased activity participation by the physically challenged student, heightened awareness of peers, more positive attitudes and socialization benefits. A physically challenged students participation in regular physical education programs is frustrating to many teachers because of their lack of preparedness, resources, support services and the difficulties in student placement in physical education and the nature of adapting physical activities. Teachers require assistance in these areas, so that all involved will benefit and feel that mainstreaming is the process to continue in the future.

A. PHYSICAL EDUCATION ADAPTATIONS

There is a need for detailed information outlining specific practical adaptations of physical activities to facilitate the successful mainstreaming of physically challenged students into regular physical education programs. Not all activities offered in physical education programs are totally appropriate for physically challenged students, but the problems of mainstreaming physically challenged students into some specific activities without disrupting normal curricular goals are possible if adequate resource materials are available to teachers. If the teacher understands the limitations and capabilities

of a particular student, plus the technical possibilities of mobility aids (ie. wheelchair) and adapted sports equipment, they will see that a viable program can be constructed that will produce optimal opportunities for all students. Teachers will have to consider each physically challenged student separately and base the integrated activities on the individual constraints and competencies of the particular students who are enrolled in their mainstreamed classes. The main goal is to meet the needs of every student in the class and at the same time to normalize the activities for the physically challenged student.

The challenge in planning and implementing a physical education program that includes a physically challenged student is knowing when support is needed, what form it will take and how it will best be implemented (Cooney et al, 1986). A physically challenged student who moves slowly may have difficulty keeping up with the movement of many of the activities in physical education programs. Physically challenged students may experience difficulties in keeping up with the speed at which the equipment and/or other students movement, the distances that need to be covered, the need to change directions quickly and frequently and the need to respond quickly to moving equipment (Goodwin, 1986). There are a number of activities that can be adapted to lessen the difficulties experienced in the gymnasium. Modifications can be made to

the equipment, the rules, the distance covered, the complexity of the skills and the change in time demands of a skill or game. Adaptations may focus on the program, skill level/activity, equipment/material and instruction and leadership style. When teachers are adapting activities they must be creative, anticipate and plan to avoid negative situations, plan according to the needs and abilities of the student and adapt only as necessary (cooney et al, 1986).

According to (Dunn & Craft, 1985; Goodwin, 1986; and McClenaghan, 1981) there is a continuum of adapted physical education services that must be provided ranging from the most restrictive environment to the regular class placement. A Full Time Adapted Physical Education program would be for those students who are very physically challenged and are in the least restrictive environment, including the mainstream of education when appropriate. Part Time Regular Physical Education/Part Time Adapted Physical Education program recognizes that many physically challenged students will benefit from placement in regular and adapted physical education programs. Regular Physical Education With Adaptations requires that other professionals and support staff are available to ensure that the mainstreaming experience is appropriate for all students. Full Time Regular Physical Education is for the physically challenged student whose ability level warrants placement in regular physical education, as outlined in

Appendix G. Physical educators must be provided with the opportunity to establish alternative programs for physically challenged students. Because of the varying nature of physically challenged student's disabilities, it is necessary to have a continuum of services to meet individual needs. The physical education program should be provided in the most integrated setting possible. The optimum goal is to maintain the physically challenged student in a regular physical education program whenever possible or work towards reintroducing the student into the regular program as soon as possible.

Adaptations to the various skills and games activities in the regular physical education curriculum will be needed when the teacher deems it appropriate and necessary for participation. Teachers require a great deal of assistance in this area in the gymnasium.

B. PHYSICAL FITNESS

To be physically challenged means functioning with some limitation or body part missing. In order to live as full a life as possible physically challenged individuals must maximize his/her physical abilities. Physically challenged individuals need fitness as much or more than the able bodied because fitness minimizes existing disabilities. Lack of fitness may inhibit participation of physically challenged students in physical education. Fitness allows a physically challenged person to be more

active in everyday activities. Through regular physical activity the physically challenged individual can maximize his/her level of physical fitness, which is essential to achieving the greatest degree of independence. Physical fitness contributes to the quality of life. The goals of physical fitness for the physically challenged are similar to the goals of fitness for all persons. Fitness allows an individual to get more out of life, have more energy, to have adequate strength to meet daily challenges, to be able to withstand stress and to pursue health.

Physiologically, physical exercise is important for the proper development of functional capacity of the heart, the lungs and the strength of the bones and muscles. Physical fitness in physical education is vital to physically challenged students growth and development (Allonby, 1983 and Kunc, 1981). Exercise not only reduces the risk of cardiovascular disease, but it also increases lung capacity, reduces pressure sores and improves mobility. A limb that is not exercised will quickly lose muscle tone and bone mass. Low fitness levels impede attempts to develop play, game and sport skills (Stein, 1985).

Physically challenged students need to develop their physical capabilities in posture, fitness and motor skills. This is particularly important during the developmental years. One way to develop these capabilities and provide the necessary education is to integrate these

students into regular physical activity programs. The surveyed physical educators were nearly unanimous (90%) in their awareness of the importance of physical fitness for physically challenged and felt they should be required to take physical education (Watkinson & Bentz 1985). Physical education provides physically challenged students the opportunity to be physically active. Alberta Education plays a significant role in encouraging physically challenged students to be involved in physical activity (Goodwin, 1986).

To effectively implement quality physical fitness programs for physically challenged students, there is a need for teachers who can assess performance, determine the needs of the physically challenged, set goals and objectives to improve performance, implement programs to obtain these goals and evaluate performance on a regular basis.

Physical education can positively influence the development of motor skills, fitness, social development and self-concept. It can also foster a positive attitude toward physical activity. This is of utmost importance for the inclusion and participation of physically challenged in regular physical education programs.

The duties of scorekeeper or library assignments should no longer be accepted as alternatives to appropriate physical education instruction and active participation in the curriculum, games, gymnastics, dance,

outdoor pursuits, fitness, track & field and aquatics. The goals of participation in physical education are to develop and maintain physical fitness, motor skills and their application in a variety of physical activities, to gain a knowledge and understanding in the area of physical activity and to improve attitudes and appreciation for fellow students.

EDUCATIONAL PREPARATION OF TEACHERS IN PHYSICAL EDUCATION

The area of educational or professional preparation is of prime importance, if mainstreaming physically challenged students into regular physical education programs is going to be successful. The author feels that professional preparation is not being done in preservice and inservice programs to the extent that it should be, so that everyone in the mainstreaming process is suffering. Teachers are unprepared, frustrated and feel highly incompetent in dealing with mainstreaming. Physically challenged students are not being provided with the physical education program they should be, thus are not gaining the physical and social benefits. Also, able bodied students may not be provided with an adequate physical education program because of the difficulties a teacher may be having with a physically challenged student(s) in their class. We also must ask ourselves if we are really being honest and fair to the parents of physically challenged students, if we are not providing

them with a sound physical education background. The biggest problem teachers have is convincing society that simply mainstreaming students and believing it should happen is not enough to make it a successful experience (Cooney et al, 1986).

Physical educators need more than techniques, gimmicks and games that have been in some of the written materials in the past. Teachers require both a basis in theory and language of physically challenged students, as well as specific strategies and techniques to use in instructing physical education. Physical education teachers can no longer work unmonitored in their gymnasiums and athletic fields (Cratty, 1980). As increased numbers of physically challenged children are involved in mainstream physical education, teachers are faced with the problem of providing instruction for all students in the mainstream. Due to the fact that there is an extremely wide range of physically challenged individuals, it is difficult to state that one type of program would be realistic for all.

There are a large percentage of teachers who feel unprepared to instruct physically challenged students in physical education and know very little background information on this group of students (Bird & Gansneder, 1981; Dirocco, 1979; McClenaghan, 1981; Minner & Knutson, 1982; Reams, 1984 and Watkinson & Bentz, 1985). It is clear that after a decade of the enactment of Public

Law 94-142, physical education for physically challenged students remains a neglected and underdeveloped area of school programming (Loovis, 1986). Many teachers have been put at a disadvantage by being expected to adapt their curriculum easily to meet the needs of physically challenged students. Most have had little or no experience working with these students, thus they may not know how physical activity affects them. Because of these discrepancies teachers question how viable a physical activity program is for these students.

Goodwin (1986) felt that a program must be well planned and it must recognize individual needs. The challenge to teachers is to adjust the regular curriculum when necessary to allow the students to learn in the manner that he/she is able to. A teacher should obtain information about each student's disability, condition and abilities. The need for individualization is very important. It is virtually impossible to suggest one best accommodating set of objectives to account for all the factors that affect the physically challenged. Factors such as age, sex, disability, activity experiences, growth, development, maturity and coordination must be considered in the program planning process. The role of the physical education teacher is to facilitate the involvement of the physically challenged student into the physical education program. All students should be receiving a program that is flexible in expectations,

instructional techniques and methods of evaluation, provides necessary support, adaptations, teacher aides if required, activity modifications, and provide a continuum of activities if necessary.

For mainstreaming to be successful, teachers, principals and other students must be made aware of and become knowledgeable about physically challenged students, the physical environment should be assessed for accessibility and possible equipment modifications necessary (Cooney et al, 1986). The teacher must take into account the different needs and learning rates of the students in the class. Mainstreaming requires commitment from the school system. Even the best trained teachers will be unsuccessful without appropriate support services (teacher aides), teaching loads that have been reduced to correspond to new role expectations and appropriate resources. Teachers in the past have been forced to try to educate physically challenged students without these needed support services. Watkinson (1985) notes that physical educators may lack both the competence and the confidence to adequately meet the needs of physically challenged students.

Bentz (1985) in the Cross-Canada survey found that in spite of the fact that half of the teachers had taught physical education to physically challenged individuals, only 2% of them felt well prepared to do so, while 60% of them felt they were inadequately prepared. According to

Karper & Martinek (1985) teachers are in need of information regarding viable ways to instruct physically challenged students in mainstreamed programs. In a study done by Santomier (1985) it was found that the opinions of physical educators toward mainstreaming were negative. The teachers regarded their own teaching skills, education, equipment and the materials available to them as inadequate for the instruction of physically challenged students in physical education. Minner & Knutson (1982) did a study on mainstreaming. The authors revealed that 71% of the physical education teachers expected problems in mainstreaming. The major concern was the time factor involved in providing adequate services for all students. All grade levels expected advantageous benefits in relation to the mainstreaming of physically challenged students in physical education. The improved self-concept of mainstreamed physically challenged students was cited as the greatest potential advantage. The majority of respondents (82%) indicated an interest in workshops related to physically challenged students. There was an inverse relationship between ascending grade level of physical education teachers and the grade level of interest in attending such workshops. From elementary to senior high school there was a pronounced decline in the number of physical education teachers anticipating advantages resulting from mainstreaming. It is possible that in upper grade levels physical education teachers

perceived the potential impact of physical education activities to be so low the increased involvement would not necessarily be advantageous. The elementary teachers may be a bit more optimistic about the amount of impact their programs can have on a young physically challenged, who is still at an early developmental level. The differences between grade levels may be due to the age level of their students and/or the organizational arrangements at each level. Also, there is an increased emphasis on skill development and competitive team sports at the junior and senior high school levels that may serve to exaggerate a physically challenged student's weaknesses.

With the implementation of mainstreaming, many teachers are under-equipped to accommodate the needs of physically challenged students. In the absence of appropriate information, the teachers may over protect, neglect or transmit negative messages to the student. Teachers have little knowledge about disabilities, do not understand the physical and motor needs of these students, are unsure about appropriate activities, how to modify teaching strategies and have difficulty meeting individual needs with a full class of students. It is not surprising for a teacher to admit to being scared and not qualified to teach physically challenged students in a regular physical education class, when all of these problems exist (Weiss & Karper, 1980). If teachers do not have the proper

training and information they may feel frustration, resentment and inadequacy. Considerable anxiety may be exhibited by teachers when physically challenged students are placed in their programs (Frith & Edwards, 1981).

Physical educators may not have the time, training or resources to attend to the needs of the physically challenged in the mainstream. Teachers require additional preparation, guidance, resources, support in the form of smaller teaching groups and teacher aides in some cases. Watkinson and Bentz (1985) found that 70% of physical education teachers had no support personnel in their physical education class, 30% were unaware of the availability of consultants, 45% had no program materials and 26% were unaware that such materials existed and 60% of the teachers had difficulties in choosing activities — that would involve all students in the class. The survey reveals that a high percentage of teachers who are unaware of consultants or program materials which could assist them in the mainstreaming process. This may be the result of poor availability of information because of the lack of dissemination of information from universities and school boards, locally, provincially and nationally or lack of communication amongst professionals. Information and resources are not easily accessible to physical education teachers. It is critical that resource materials with practical adaptations to existing physical education programs be collected and disseminated to teachers.

Dirocco (1979) states that it is important to work with the physically challenged in physical education class in order that they can improve their physical fitness, develop efficient movement patterns and learn usable leisure activities that may contribute to a better quality of life. There are many different individual ability levels and problems seen in the physically challenged population, so that it is not possible to meet the needs of this group of people by developing age related programs for each disability. In order to meet the motor needs of these individuals, teachers must develop the student's movement patterns and build from each student's level of performance. Teachers in their instruction must utilize developmental motor and growth patterns. Students must be assisted to perform at their own levels and progress at their own rates. Physical educators in this setting will always be continually confronting new demands and adapting to new changes.

Folio & Norman (1981) suggest that careful planning and organization on the part of the teacher, assists in making mainstreaming a positive and relatively non-threatening experience for the physically challenged student. Teachers who have a good knowledge of the physically challenged, who have support from their administrations and school boards, and who feel confident in their teaching abilities, tend to have more positive attitudes toward physically challenged students (Hummel et

al, 1985).

Physical educators must have the interest, knowledge and skills to plan, develop and implement appropriate strategies for establishing in their class an atmosphere that not only ensures learning, but also encourages the acceptance of individual differences. By mainstreaming physically challenged students into regular physical education they will be provided with access to a broader range of activities, opportunity and experiences (Churton, 1987). Mainstreaming is not always easy and it requires ingenuity, creativity and flexibility.

PRESERVICE PREPARATION

Sanche et al (1982) note that teacher attitudes toward mainstreaming may be positively influenced during preservice education. There is a need to provide inservice preparation for teachers already in the field, but there is a longer term but equally important task of providing effective preservice teacher preparation for those who will be teaching in the future. If physical educators are to continue to meet the needs of physically challenged students, then the teacher training programs must develop appropriate means of assuring quality in teachers. Evans (1986) revealed that the preparation of physical education teachers needs to be adjusted to a more broadly based curriculum in the areas of coaching, exercise prescription and skill acquisition. In Canada, it seems we have a

number of individuals being hired as classroom teachers who are unprepared and unqualified to teach physical education to any student (Evans, 1986). Both the United States and Canada seem to be in their infancy stages in providing good, sound quality adapted physical education programs.

Loovis (1986) did a one semester preservice training study with a group of teachers and found that it increased their knowledge about physically challenged students and improved general attitudes toward them. A preservice course is essential for the preparation of teachers, who would otherwise have no information or contact with physically challenged students. Regular classroom teachers and principals must be given adequate preservice education. This should be part of their teacher certification program, so that they will gain knowledge, competence and motivation to implement mainstreaming where appropriate (Alberta Education, 1981). Physically challenged students should not be mainstreamed until teachers are properly trained as preparation is essential to the success of mainstreaming. There must be substantial changes made in teacher education at all levels and in all areas of specialization, so that graduates are better prepared for assuming professional responsibilities.

In Obstacles (1982) it states that the provincial ministries of education are encouraged to develop, for use in teacher training programs, course material and teaching

aides about the physically challenged. At the present time most school teachers are not prepared to manage these students in their classes. If professional preparation programs included materials related to the understandings of the many needs of the physically challenged, many errors could be avoided. Professional preparation that provides exposure to physically challenged students, as well as knowledge about disabilities and activities that facilitate participation, will assist the teacher in increasing the participation level in physical education.

A. UNIVERSITY PREPARATION

While there has been growth and development of teacher education programs at universities in the Canada and the United States, there is still a lack of prepared teachers (Hummel et al, 1985). Canadian universities need to greatly expand their special education and adapted physical education programs. Universities throughout the country must allow room for adequate professional preparation of students in this field of study. The responsibilities of this preparation lies with the schools, departments and faculties of physical education and education at universities in Canada (Evans, 1986). Only a few universities in Canada offer degrees or degree majors in physical education and it is even more difficult to find programs which specialize in adapted physical education. According to Bentz (1985) only 19% of the

teachers instructing physical education to physically challenged had taken a university course, which dealt specifically with physically challenged individuals in physical education classes and less than 45% had a physical education degree or equivalent. As undergraduates 79% of the respondents had no practicum experiences specific to physical education for physically challenged students and 96% had none as graduate students (Bird & Gansneder, 1979). Dirocco (1979) found that many physical education specialists have not had any training or experience with physically challenged students and feel very inadequate working with this population.

Few university degree and/or certification programs have comprehensively addressed the issue of quality assurance in regular and adapted physical education programs. In 1979 (Churton, 1987) a survey of five hundred universities and colleges in the United States was performed. It was found that only 45% of them required a course in adapted physical education for physical education majors. Practicum experiences in adapted physical education were required by fewer than one hundred and fifty programs. With a significant reduction of adapted physical education teachers being trained and placed in the school system, the needs of physically challenged students relative to adapted physical education will continue to increase, but go unfulfilled. According to Reynolds & Birch (1978) these are items that should be

included in mainstream teacher education training programs:

- the nature of mainstreaming
- the nature of physically challenged students
- attitudes toward physically challenged students
- attitudes toward mainstreaming
- resources for effective teaching
- techniques of teaching
- learning environments and styles
- curriculum adaptations
- assessing student needs
- evaluating student progress
- administration of mainstream programs

If we hope to see truly professional behavior in teachers in the future major changes are necessary in our faculties and schools of education and physical education. Teachers hardly have time in our current system of teacher education to acquire knowledge in all subject areas they are expected to teach. The price we pay for this omission can be very high (Csapo & Goguen).

Universities must be responsible to develop specific courses related to the instruction of physically challenged individuals. These courses should be available not only to teachers in training, but also to teachers that who are currently in the field. There must be cooperation between school boards and universities to

ensure that teachers obtain the knowledge and skills to provide quality physical education to physically challenged students. All educational programs must be kept current and relevant. Without these mechanisms to increase teacher preparedness, mainstreaming in physical education classes across Canada are likely to meet with minimal success.

INSERVICE PREPARATION

Many physical education teachers are not adequately prepared to provide motor experiences to physically challenged students because they lack the formal training, knowledge of disability and self-evaluation (Bird & Gansneder, 1979). Preservice and inservice preparation must increase its emphasis on providing physical educators with knowledge about these students and appropriate programming competencies and skills (Aufsesser, 1981 and Dummer & Windham, 1982). Many teachers have been expected to implement mainstreaming in spite of being provided with little or no preservice and/or inservice training. If physically challenged students have a right to an education in a regular program, teachers have both a right and a responsibility to be prepared for the task (Turnball & Schulz, 1979).

In a study done by Ringlaben & Price (1981) they found that 55% of teachers instructing physically challenged students indicated that they had not received

any inservice training, 86% stated that they had not taken any coursework in the area of mainstreaming and a large number of teachers perceived that they had very limited knowledge of mainstreaming and that mainstreaming was having either a positive or no effect on them

There is a lack of training opportunities, causing most teachers to have done their training "on the job". There is a strong need for professional development. The current curricular approaches to prepare physical educators must be modified from traditional sports oriented methods to a more developmental method, so that movement skills will be the focus not the level of performance (McClenaghan, 1983). Hummel et al (1985) note that 99% of the Ontario teachers they surveyed believed inservice training to be either very important or somewhat important, to facilitate the programming of students who are physically challenged. Additional funding sources for inservice education, with various formats and content must take place or the situation will not improve.

Powers (1983) states that the highest probability of successful inservices is associated with an activity-based methodology. There must be active teacher participation in assessment, planning and evaluation; on-site location; meaningful and prespecified incentives for longterm change; credible and flexible training personnel; active, positive and voluntary participation by school administration; and training materials designed to meet

the needs and interests of the participants.

There are increased demands on regular school staffs to accommodate a increasing diversity of students's needs. If physically challenged students are to have appropriate physical education programming, the teachers too need to be given appropriate inservice programming (Hummel et al, 1985).

Marston and Leslie (1983) in a study found that 76% of teachers responded that most colleges and universities are not adequately preparing physical education majors to deal with physically challenged students and they perceived a definite lack of professional preparation. Inservices and demonstrations which focus on providing the teacher with successful team-teaching experiences of physically challenged students should help alleviate fears and concerns and build confidence among teachers. Eason et al (1983) note that inservice training has had a history of inadequacies with regard to teacher needs in today's schools. Practising teachers must be involved in determining inservice needs and in providing retraining to develop new techniques and methods. Inservice training should include the characteristics and behaviors of physically challenged students, teaching techniques, activities indicated and contraindicated and various ways to modify games and equipment, so all students can participate. It is important that teachers who attend inservices take the information they receive back to their

schools and to share it with their fellow colleagues.

Watkinson and Bentz (1985) found that only 11% of the teachers surveyed had participated in workshops or seminars dealing with adapted physical education over the past five years and felt inadequate because of this lack of training. Care must be taken in planning inservices to ensure that the needs of physical educators at various educational levels are being addressed. Schools and school boards must organize and implement inservice workshops to assist in rectifying these problems. Teachers require lists of specialized physical education equipment, films, videos and printed resources.

Education for the physically challenged has been carried on in an ad hoc manner with little or no direction through planning, policy statements or comprehensive legislation (Csapo & Goguen, 1980). The need for increased interest and research in this area is crucial, so that the process of successfully preparing physical educators for the mainstreaming of physically challenged students into their classes will be fully realized. Canadian research and development needs to focus on the area of special education and develop necessary curriculum materials (Alberta Education, 1981). The curriculum must be modified in order that physically challenged students can maximally participate in physical education programs. The areas that must be looked at are: expectations, skills, resources, equipment adaptations, activity suggestions and parent

counselling. All information must be relevant. It is important to incorporate individual education programs (IEP's) into the curriculum for physically challenged students. They allow a teacher to identify goals and objectives for the student, how these goals and objectives will be implemented, what resources are required to meet these, what the time lines are and how the teacher will evaluate the program. Individual education programs allow the teacher to upgrade the students skills ,and to monitor their progress. There is also a need in some instances for creating instructional alternatives for these students who cannot benefit maximally from regular class placement in physical education. The individual education program process is important in determining alternatives to regular class placement for physically challenged students.

Researchers in physical education must make concerted attempts to study the complexities of instruction in the mainstream. There are many problems facing researchers who are interested in undertaking study in this area. Problems concerning believability, replicability and generalizability of the research results of mainstreaming in physical education (Karper & Martinek, 1985). There needs to be a sufficient research based on which to develop instructional theories. Research in the adapted physical education area, at all levels, is limited and frequently superficial. Professional preparation programs

must begin to emphasize the importance of well designed investigative research.

No profession in the social sciences can assume that preservice education alone is sufficient for maintaining professional status. It is not reasonable to assume that any given training period can prepare an individual for a lifetime in any profession (Powers, 1983). Inservice training has the potential for a significant positive impact on the quality of current physical education programs. Inservices are necessary because they maintain teachers' skill levels and competencies. They provide teachers with the opportunity to develop knowledge, skills and attitudes to use as prerequisites for effective mainstreaming. One of the major vehicles for change are the processes of preservice and inservice preparation.

Chapter III

METHODOLOGY

SAMPLE SELECTION

An oral questionnaire was administered during an interview to fourteen physical education instructors within the Edmonton Public and Separate School Boards, St. Albert Protestant School Board and five Rural Boards. The interviews were held during April and May 1986. Subsequent to the interviews teachers completed a written rating scale.

The sample of fourteen teachers, eleven males and three females, was chosen on the basis of their students' participating in the Children's Summer Wheelchair Basketball Camp sponsored by the Alberta Northern Lights and the Research and Training Center for the Physically Disabled in the summers of 1984 and 1985. These students were chosen because of the availability of the home addresses of the students which provided access to their schools and teachers. It is very difficult, because of reasons of confidentiality to find out the names of physically challenged individuals within the school system.

Permission for this study was granted through Field Services in the Faculty of Education at the University of Alberta. In order that this study could be carried out in schools in Edmonton and St. Albert (see Table 1) a contact

letter was sent to the principal of each of the fourteen participating schools. All of the teachers agreed to be interviewed and appointments were made.

Only one school administrator replied negatively, stating that the school had a busy schedule. Five other students considered for the study received medical exemptions and were not participating in regular physical education programs. One of the teachers who was interviewed did not return the written questionnaire, so was omitted from the study.

A. DESCRIPTION OF SAMPLE

There were fourteen teachers that participated in this study. They provided information on some of the problems they encountered with each of their fourteen physically challenged students in physical education programs. The schools sampled included elementary schools, junior and senior high schools. There was adequate representation from the elementary (8) and the junior high (5) schools, but the senior high (1) schools were low in numbers. Table 1 summarizes the schools sampled.

TABLE 1
SCHOOLS SAMPLED IN THE STUDY

School Board	Number	Elementary	Jr.High	Sr.High
Edmonton Public	7	5	1	1
Edmonton Separate	2	1	1	-
St. Albert	1	1	-	-
Rural Schools	4	1	3	-
Total	14	8	5	1

Within the schools that were sampled four different disability groups were represented, who used two different kinds of mobility aids. The information is presented in Table 2. The paraplegic and the two amputee subjects were the only individuals in the study who became physically challenged as a result of an accident. The other students with cerebral palsy and spina bifida were born with the condition.

TABLE 2
NATURE OF DISABILITY AND MOBILITY AIDS OF STUDENTS

DISABILITY	SCHOOL LEVEL			MOBILITY AIDS	
	Elem.	<u>Jr.High</u>	Sr.High	WC	BRACES
Cerebral Palsy	2	3	0	4	1
Paraplegic	1	0	0	1	0
Amputee	0	2	0	2	0
Spina Bifida	5	0	1	5	1
TOTAL	8	5	1	12	2

TABLE 3
UNIVERSITY PREPARATION

TEACHERS QUALIFICATIONS	YEARS TEACHING	PREVIOUS EXPERIENCE
BA, BED, BPE	8	NONE
NO DEGREE	7	wheelchair student
BSC, ADMINISTRATION	10	NONE
BED (PED MAJOR)	9	NONE
BPE (ED CERT)	8	NONE
BPE (ED CERT)	20	LOTS
BPE (ED CERT)	7	NONE
BED (SPEC ED MAJOR)	6 months	mental handicaps
BPE (ED CERT)	5	1 hearing impaired
BED	24	NONE
BPE (ED CERT)	10	NONE
BED	6	3 vis.impaired
BED	5 months	NONE
BED	6	NONE

DEGREE CODES

BA = Bachelor of Arts
 BED= Bachelor of Education
 BPE= Bachelor of Physical Education
 BSC= Bachelor of Science
 ED CERT= Education Certificate
 SPEC ED= Special Education

All teachers had a degree(s) who were instructing physically challenged students in this study, except for one individual. Bachelor degrees in education and physical education were the most common. Nine of the teachers had had no previous experience teaching physically challenged students, four teachers had previously taught individuals who were mentally handicapped, hearing or visually impaired and one student who was in a wheelchair, as outlined in Table 3.

METHODS AND PROCEDURES

The research instrument for this study consisted of a face to face interview with the teacher who instructed the physically challenged student in physical education.

The questions were developed over a six month period based on issues raised in the literature in adapted physical education. Input from a number of people with knowledge in adapted physical education from the University of Alberta was also received. The data were collected over a two month period, with a maximum of two interviews conducted on any one day.

The oral questionnaire was administered using the recording form (see Appendix A) and a portable cassette tape recorder for data collection. Teachers were asked to be honest and were told that all information would be held in confidence. Teachers completed a written

rating scale (see Appendix B) subsequent to the interview. The rating scale was designed to get more information than could be received in an interview. Teachers were requested to answer all questions. The rating scale was developed from the literature (McGraw & Watson, 1976) and from some of the concepts presented in the oral questionnaire. Each teacher responded on the four point Likert rating scale to ten questions on issues in mainstreaming and fifteen questions concerning the attitudes of teachers' toward mainstreaming. Each rating scale was left with the teacher after the interview and a self-addressed envelope was given to the teacher, in order that he/she could fill in the rating scale at their leisure and return it by mail.

The oral questionnaire was the primary data collection instrument. There are a number of reasons why the face to face interview approach was used. A structured interview technique enabled the most effective collection of detailed data for this exploratory type of study. The interviewer probed behavior that was considered important as a means of dealing with the variability that exists between circumstances surrounding each subject. The interviewer also had the opportunity to motivate the respondents to clarify their answers to questions with which they may have had difficulty. The face to face interview also provided the interviewer with a good return of responses.

Some of the disadvantages with the face to face

interview was the time factor involved in interviewing each subject and the cost and coverage. The final analysis of the data was also very time consuming. This type of interview process may not allow respondents as much time on a question as they may wish. The interviews had to take place on a regular working day, so some teachers had to attend a class right after the interview so they may have been rushed.

Before the study commenced, a pilot study was administered in the Edmonton Public and Separate School Systems. This proved to be a major difficulty in the study because of the problem of obtaining information about where physically challenged children attend school in Edmonton. Six schools were selected, all having physically challenged students. These schools were chosen on the basis of grade level: Four elementary schools (grades 1 - 6), and two junior high schools (grades 7 - 9). There was no information available on senior high school students. The teachers went through the interview process, in order to provide feedback on the following:

1. applicability of questions
2. clarity of questions
3. questions that should be added
4. questions that should be deleted
5. length of interview

From the feedback obtained from the teachers revisions were made and the final interview questions were established. Four questions were deleted because of repetition and questions 1, 6, 9, and 10 were revised in terms of clarity. The feedback received was on the whole very positive.

The interview consisted of eleven open ended questions, with closed ended statements (probes) attached to some of them. The open ended style was chosen so the respondents could identify all possible responses.

The written rating scale the teachers responded to was completed in order to obtain more information than could be received in the interview. A four point Likert scale was used in an attempt to force the respondents to make a decision on the issues stated. McGraw and Watson (1976) note that a four point Likert scale alleviates the response set bias of respondents who tend to give neutral responses, but it does cause polarity.

A non-random sample was the most feasible because of the knowledge of where the students went to school and in terms of time. The students were an intact group that was already in existence.

VALIDITY AND RELIABILITY

The materials developed were validated through the use of face validity. Face validity is evaluated by a group of individuals, who read the measuring techniques and determine whether in their opinion it measures what it

is suppose to (Grondlund,1981).

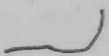
The questions in this study were validated by professors and graduate students, who had considerable experience in adapted physical education environments. Through feedback, questions were revised and clarified, while some were deleted.

ANALYSIS OF DATA

ORAL QUESTIONNAIRE

The cassette tapes from each interview were reviewed and each question across subjects was analyzed, with responses and comments transcribed onto the teacher interview recording forms. To clarify the tabulated reponses, selected comments that reflected prevalent positions were included. Other comments that were unique or of particular interest were also added. The comments are included within the text in the results section.

The data collection was exploratory in nature, so it allowed the respondents to speak at length about each question. Key statements, that had pertinence to the question were analyzed. Similarities and differences for each question were grouped together in the analysis. Supplementary to the questionnaire, teachers were asked how many years they had taught school, if they had any previous experience teaching the physically challenged, and what their educational qualifications were.



WRITTEN RATING SCALE

The results of the questions on the rating scale were categorized into common areas of attitudes, participation and educational preparation. The frequencies of each response at each of the four points on the Likert scale were tabulated, then analyzed and some of the information put into tables.

The information received from the rating scale provided additional information about the areas of attitudes, participation and educational preparation in the analysis of the mainstreamed regular physical education program.

Chapter IV

RESULTS

The results of this study will be presented in two major parts. Section I includes the responses to the oral questions given to each teacher regarding the background information on the physically challenged student, attitudes of the teacher, availability of program materials, teacher preparation and the nature of physical activities in physical education programs in some schools in northern Alberta. The information received from the teacher interview will be presented using tables, graphs and teacher comments. Section II presents the results from the written rating scale, which examined in more detail the issues discussed in section one.

I. ORAL QUESTIONNAIRE

The results are presented from each question administered to the teachers during each interview session. The results are sequenced in the order in which each question was administered. In some cases probes were used to prompt more information from each individual. The question precedes selected teacher comments for each question.

A. BACKGROUND INFORMATION

1. What kind of background information, if any did you receive on this student when he/she arrived in your physical education class?

Eight of the fourteen teachers instructing physical education programs received some background information about each student, while six received none as outlined in Table 4. Four probes were used in this question, so that the frequency of the responses in the table may exceed the actual number of respondents.

TABLE 4**BACKGROUND INFORMATION ON STUDENTS**

BACKGROUND INFORMATION	NUMBER OF RESPONSES
Previous School Records	4
Assessments	4
Medical Forms	4
Parent Information	5
No Information	6

The following is a list of comments of summarized remarks from the teacher interviews from he/she who felt informed about their student's disabilities:

- 001- all background information is at the school
- 002- I have seen comprehensive reports
- 003- it was very beneficial to speak to the Mother about her son's disability
- 004- I am aware of his limitations from speaking with the parents

Although there were some teachers who had some background information on the students, there were others who lacked the information and felt very apprehensive having the student in their class.

- 005- to this day I do not know what is wrong with her...I would have liked to have known, so I could have tapered the exercises to benefit her.
- 006- I was told very little, except of his disability and that he would be in my physical education class
- 007- received no background information, so I was unsure about what we really had to be careful about
- 008- the principal was asked for some background information, but I received none

2. Did you have any medical or safety concerns having a physically challenged student in your program?

For a teacher instructing a physical education class

a major concern is the health and safety of every individual in the class. The majority of teachers are concerned with the medical and safety factors of their students, as illustrated in Table 5.

TABLE 5
MEDICAL AND SAFETY CONCERNS OF TEACHERS

	Number
Teachers Not Concerned	6
Teachers Concerned	8

The teachers that had no concerns stated:

- 009- the medical reports are all in the cumulative cards in the school office
- 010- I have full documentation of her medical condition
- 011- no major safety concerns...he is cautious and responsible
- 012- I am an adapted physical education person, so I know what to expect and what to do with her

Eight of the fourteen teachers had genuine medical and safety concerns about the physically challenged student they were instructing. They were not provided with the information they required in order to feel comfortable about

the student being in their class.

013- like to have known what her condition was

014- no medical knowledge about the child

015- I am afraid of him falling out of his chair or
peer contact, especially in games that involve
a lot of movement

016- Yes, I have had medical and safety concerns

B. ATTITUDES ABOUT TEACHING PHYSICALLY CHALLENGED STUDENTS

3. Have your attitudes about teaching a physically
challenged student changed, since this student has been
in your class?

All fourteen teachers in this study had very positive
attitudes about teaching physically challenged students,
even though some felt ill-prepared, and lacked the
knowledge and resources to instruct this student in
physical education, as seen in Table 6.

The following statements were documented:

017- tend not to view them as being any different
than the other students

018- good attitude from previous experiences

019- do not treat her special...try to integrate her

020- regard it as a challenge

TABLE 6

ATTITUDES TOWARDS MAINSTREAMING

POSITIVE

Improved attitudes of other students

Good awareness

Improved social skills

Increases physical skill level

Good lifetime skills

Having a teacher aide

NEGATIVE

Difficult to get student involved

Takes a lot of time and individual attention

Lack background training

Tremendous pressures on classroom teachers

Liability

Disruptions in programming

Lack knowledge and resources

021- no preconceived attitudes

022- it is an individual thing and it depends on the student

4. What do you think about the increased demand for mainstreaming in the school system, as far as placing students into regular physical education programs?

Teachers, when asked about how they felt about the increased demand for mainstreaming in the school system responded in a variety of ways. The teachers that were favorable towards mainstreaming responded as follows:

023- I like the mainstream idea

024- it improved the attitudes of other students seeing how hard she had to work to do the same things they were

025- good awareness...his social skills have improved and there is more acceptance of himself

026- it is happening and is a reality...it will not cease to exist and it will increase if anything

027- mainstreaming is very important for able bodied and non-able bodied children

028- mainstreaming is something we have to accept because integration is taking place in schools

5. Do you think it is advantageous for this student to be in a mainstreamed program or would they benefit more in a segregated setting?

TABLE 7

MAINSTREAMED OR SEGREGATED SETTINGS

Mainstreamed	9
Segregated	1
Unsure	4
Total	14

C. TEACHER PREPARATION IN MAINSTREAMING

Many teachers realized that even with a positive attitude towards mainstreaming, there are a number of underlying factors that impede having a successful program. The majority of teachers lacked the knowledge and the skills necessary for a successful mainstreamed program.

6. Did you feel prepared when this student arrived in your class and what problems did you feel you would encounter?

029- it is definitely a challenge trying to think of different ways to do things

030- at times it is difficult to get him involved and to keep up with others in class

- 031- I think it increases the skill level, but it takes a lot more time and individual attention to be part of the class
- 032- mainstreaming is very challenging to physical education teachers...most regular classroom teachers would find it impossible because they would not have the background training or any ideas to integrate
- 033- mainstreaming is putting tremendous pressures and expectations on regular classroom teachers, so we must train people
- 034- very often they do not get to compete in competitive sport and tend to settle for second best in physical activities
- 035- there are so many adaptations and modifications to be made that it may disrupt the programming
- 036- a person needs a lot of expertise in adapting activities for all to benefit in an integrated program
- 037- mainstreaming depends on the student and their disability and attitude
- 038- I do not feel comfortable because of the liability issue

039- mainstreaming has some social benefits, but I am not sure if it has any practical benefits as far as him learning and getting a sound physical education background

040- very important for both able and non-able bodied student's fitness and general knowledge purposes

Two of the fourteen students had a teacher's aide with them during each of their physical education classes. The aides assisted a great deal in the programs.

041- it would be very awkward if we did not have an aide.

042- with the aide we do constructive things most of the time, instead of him sitting out

Twelve of the teachers felt unprepared to instruct these students in their own physical activity setting.

043- without the background knowledge I could not attempt to prepare adaptations

044- I was nervous, scared and not sure what he could do or how much he could accomplish

045- never felt prepared, always felt student was not getting a fair shake in it

046- I did not feel prepared because I never had any training or experience with non-able bodied children

- 047- I have no physical education background or training
- 048- not really prepared...it has been a learning experience
- 049- I felt totally unprepared for his lack of mobility and small muscle coordination and movement
- 050- I did not feel comfortable because I did not know what to expect
- 051- I did not know his limitations or what to do in case of injury
- 052- do not feel prepared teaching physical education because I have never taught it before and feel I lack the knowledge and skills

7. What has been the most difficult aspect of teaching this student?

There are many difficult aspects of teaching a physically challenged student. Varying factors caused the teachers to respond in a number of ways to difficulties they personally encountered.

- 053- keeping her active is the most difficult aspect of teaching her
- 054- getting him involved in physical activities

- 055- the different structuring of activities
- 056- hard for me to figure out drills he can do
because he does not have use of his legs
- 057- it is difficult getting him motivated because he
has been conditioned to having others do it for
him
- 058- the most difficult aspect is his frustration
with his disability...I feel badly that he
cannot get out to participate and compete
- 059- it is difficult to keep being positive
- 060- how hard should I be with him because I do not
want to hurt his feelings
- 061- accountability...I do not feel that I am doing
him justice because he is only getting a partial
program, not a complete one
- 062- not being able to spend the time with him he
needs because the other students place demands
on my time
- 063- exhausting both his and my thoughts about how
physically involved he can be
- 064- looking out for his safety

Two teachers encountered no difficulties instructing their students because they felt in control of the situation in their physical education programs.

065- the student's program has been so flexible that

I never really encountered any difficulties

066- nothing because the student knows what she has
to do

All but one teacher had a degree(s) of those instructing physically challenged students in this study. Bachelor Degrees in Education and Physical Education were the most common. All but one teacher also responded that their university training had not prepared them to teach this student. Nine of the teachers had had no previous experience teaching physically challenged students, four teachers had previously taught individuals who were mentally handicapped, hearing or visually impaired and in a wheelchair. Only two of the fourteen teachers had teacher assistants aid them with the physically challenged student in physical education. Neither of the teacher assistants had a degree or any previous experience.

One of the aides had worked with a couple of mentally handicapped students in the past, so she had some experience in adapting programs.

8. a) Has your university training prepared you in teaching this student?
- b) Have you been to any adapted physical education workshops or inservices?
- c) Is there any adapted physical education resource material available to you in your school or district?

Table 8 outlines the teachers involvement in adapted physical education inservices and workshops and the availability of resource materials. The two teacher aides in this study and two of the teachers participated in seminars dealing with integration. Only one teacher was using the Guidelines for Adaptations to the Canada Fitness Award: Youth with Limited Physical Abilities (1984) publication. Two teachers were using the Alberta Education publication of Integrating Physically Disabled Students into Physical Education (1985). Five of the eight teachers received information from the physical education consultant at CAPE (Co-ordinated Assessment and Program Planning for Education) in Edmonton. None of the teachers felt that their university training had prepared them in teaching physically challenged students.

D. PHYSICAL EDUCATION PARTICIPATION

9. What is the percentage of time this student is actually participating and involved in your physical education class?

The amount of time and participation in a physical education class varied amongst all fourteen students, as outlined in Figure 1. It was beneficial to note that all were participating, but at various extents. Class participation ranged from 25% - 100%, with a mean at 73%. The number of minutes per week a student participated in regular physical education programs ranged from 40-180 minutes per week, with the mean at 111 minutes per week.

10. What activities does the student take part in and which activities have you modified?

The activities in Table 9 were offered as part of the Alberta Education physical education curriculum. The highest frequency of participation for the physically challenged students were the following activities: floor hockey, basketball, fitness, track, softball and children's games. The activities physically challenged students were involved in to a lesser extent were dance, weight lifting, badminton, bowling and aquatics. Some of the activities in the "others" category that participation was high were in volleyball (Newcomb), gymnastics and

FIGURE 1: SUBJECT PARTICIPATION TIME

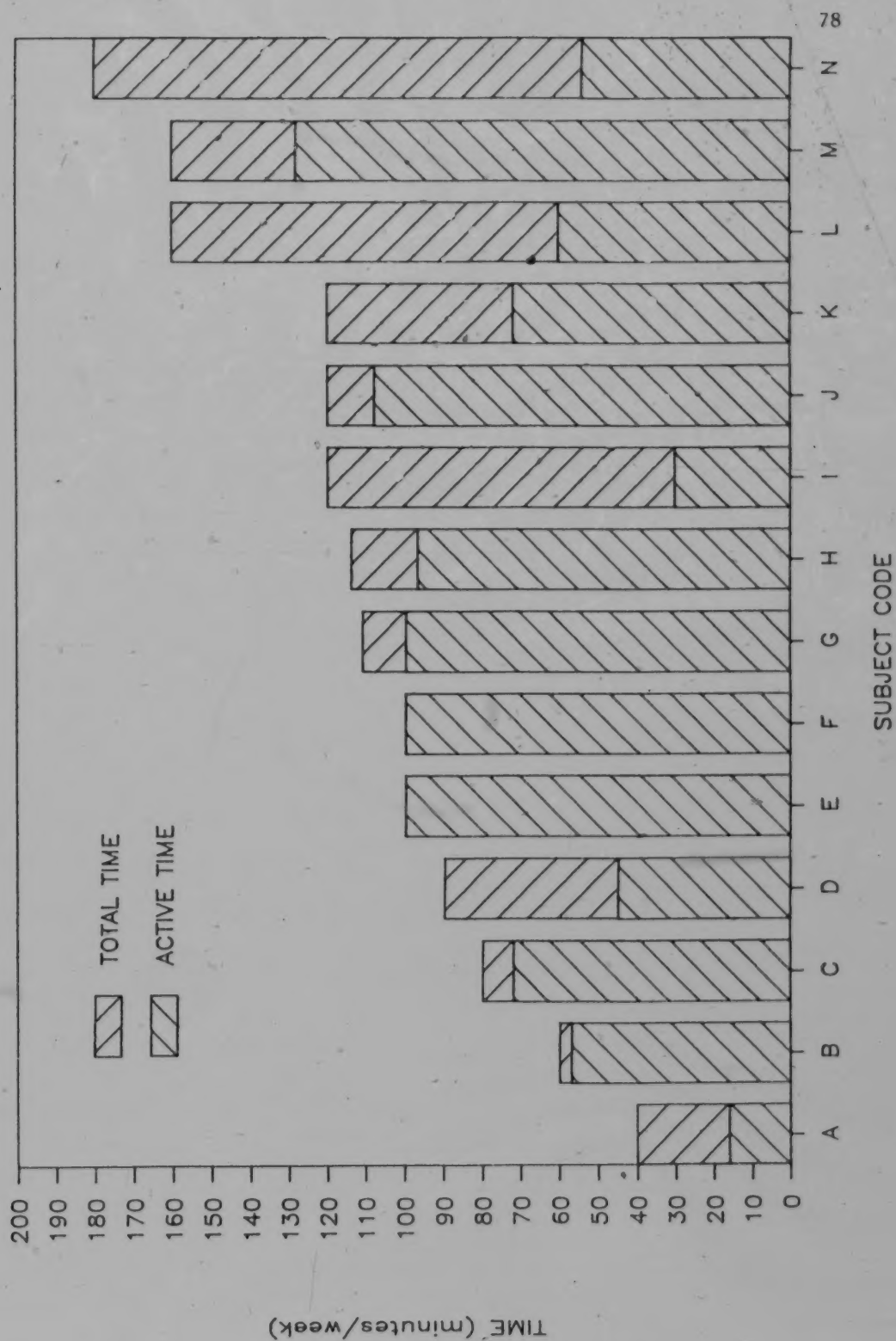


TABLE 8

ADAPTED SERVICES AND RESOURCE MATERIALS

	YES	NO
Have you been to any adapted physical education workshops or inservices?	4	10
Is there any any adapted physical education resource material available to you in your school or district?	8	6

TABLE 9
PHYSICALLY CHALLENGED STUDENTS

ACTIVITY PARTICIPATION	
ACTIVITY	PARTICIPANTS
floor hockey	13
basketball	12
fitness activities	12
track	11
softball	9
children's games	6
dance	5
weight lifting	5
badminton	4
aquatics	2
bowling	2
<u>OTHERS:</u>	
volleyball and Newcomb ball	9
gymnastics	6
soccer	5
archery	2
tennis	1
field hockey	1
racquetball	1
team handball	1
table tennis	1
wrestling	1
boccia ball	1

and soccer. Tennis, table tennis, archery, wrestling, field hockey, raquetball, team handball and boccia ball were also other activities the students participated in to a lesser extent because they were not offered at the majority of schools.

E. AVAILABILITY OF RESOURCE MATERIALS

11. What types of information would you like to see more readily available to yourself, so that you feel more prepared and knowledgeable teaching this student in physical education?

The majority of teachers in this study are in need of a number of different resource materials on disabilities, nature of physical activities to use in physical education, support mechanisms and guidance as to how to prepare themselves and be able to provide a successful program for physically challenged students. The following are some of the teachers comments on these issues:

067- need guidance and direction from the Department of Education as to where do we go with mainstreaming... Department of Education must be accountable

068- need a modified curriculum with ideas and hints

- 069- ideas booklet of different skills of what different disabilities can do...ideas to incorporate into an entire class
- 070- need to document and compile information so it is easily accessible
- 071- require resource material about specific disabilities...research on kids with disabilities
- 072- I need more practical hands on material
- 073- more information on how to incorporate the student within the classroom and still be able to teach the skills
- 074- adaptive drills and games, where both able bodied and non-able bodied benefit...do not want either group to suffer or to leave out anyone
- 075- want to know their limitations and what they can do and what skills and games could help them
- 076- a booklet on games and activities for limited types of mobility
- 077- activities just for him that he could do independently and provide a positive experience
- 078- things to assist him physically for development and coordination...what to do with a partner
- 079- an inservice would be of great value because I feel inadequate

II. WRITTEN RATING SCALE

In this section frequencies of responses to each question, along the Likert scale have been reported and the similar questions have been categorized. This was done in order to obtain more information than could be received during the oral questionnaire. The four point Likert scale was used in each of the questions to force respondents to make decisions on the issues stated. This section focuses on the a) participation of the physically challenged student in the physical education class, b) the use of gymnasium equipment and rule changes in activities and c) the attitudes of teachers toward mainstreaming students who are physically challenged.

A. PHYSICAL EDUCATION PARTICIPATION

The agreement amongst teachers in this study was that they felt that their students usually looked forward to physical education classes. They enjoyed physical education, and looked forward to the class time spent performing physical activities, as seen in Table 10.

A large number of physically challenged students in this study were sometimes instructed on an individual basis. More than one-half of the students in this study usually participated in individual activities. One-half were involved in group games in physical education, when they are offered. Teachers stated that students only sometimes interacted easily in group activity sessions,

TABLE 10

STUDENT PARTICIPATION IN PHYSICAL EDUCATION

FACTORS	Nearly Always	Usually	Sometimes	Rarely
1) student looks forward to p.e.	5	8	1	0
2) student instructed on an individual basis	0	0	9	5
3) student participates in individual activities	3	8	2	1
4) student participates in group games	3	6	4	1
5) student involved in main action in group games	3	4	6	1
6) student interacts easily in group activity sessions	2	5	6	1
7) student tackles physical tasks with great interest	1	8	4	1

which could be the reason why the majority were involved in individual activities. They were only sometimes involved in the main action in group games. Eight of the fourteen students usually tackled physical tasks with great interest.

B. GYMNASIUM EQUIPMENT

Gymnasium equipment is used to a large extent during physical education programs. Physically challenged students are involved in regular physical education classes and participate in both individual and group activities using regular gymnasium equipment. Gymnasium equipment was rarely adapted for students in this study. Sometimes, depending on the particular activity the equipment was adapted. Rule changes were rarely implemented for the students in this study, as noted in Table 11.

C. ATTITUDES OF TEACHERS TOWARD MAINSTREAMING

PHYSICALLY CHALLENGED STUDENTS

The attitudes of teachers toward mainstreaming physically challenged students were examined in a series of fifteen questions that were developed by Watkinson and Bentz (1985) in the Cross-Canada Survey On Mainstreaming Students With Physical Disabilities Into Physical Education In Elementary And Secondary Schools, as seen in Table 12. This was done to review the similarities and differences between this present study and what was found

TABLE 11

GYMNASIUM EQUIPMENT USAGE AND RULE MODIFICATIONS

FACTORS	Nearly Always	Usually	Sometimes	Rarely
1) student uses gymnasium equipment	4	4	5	1
2) gymnasium equipment is adapted for this student	1	0	5	8
3) rule changes in games have been implemented for this student	0	3	5	6

TABLE 12

ATTITUDES OF TEACHERS TOWARDS MAINSTREAMING OF PHYSICALLY CHALLENGED STUDENTS

QUESTION (Adapted from Watkinson and Bentz (1985))	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
a) A physically challenged student should be required to take physical education.	7	7	0	0
b) In comparison to able bodied students, physically challenged students do not like physical education.	1	1	5	7
c) The physical fitness of the physically challenged student can be improved.	7	7	0	0
d) The safety of a physically challenged student is at risk in a physical education class.	3	4	5	2
e) It is difficult to assess the skills and abilities of a physically challenged student.	2	7	4	1
f) Physically challenged students would benefit more from attending academic classes than they would from attending physical education classes.	1	0	6	7
g) The safety of the able bodied students is at risk if the physically challenged student participates in regular physical education classes.	0	3	6	5
h) Physically challenged students would benefit more from placement in special schools for challenged students only than from enrolment in mainstream schools.	0	3	6	5
i) It is difficult for able bodied students to benefit maximally when a physically challenged student is part of a physical education class.	1	5	5	3
j) It is difficult to choose activities that benefit both the physically challenged and able bodied students in a physical education class.	2	8	3	1
k) I feel uneasy about dealing with special medical problems that may arise when a physically challenged student is participating.	0	7	6	1
l) I feel that physically challenged students need skill upgrading before they enter integrated physical education classes.	1	3	8	2
m) Physically challenged students need too much time and attention in a regular physical education class.	0	3	9	2
n) It is not the job of a regular physical education teacher to instruct physically challenged students.	0	3	8	3
o) Physically challenged students would benefit more from placement in special physical education classes for physically challenged students only rather than placement in regular physical education classes.	0	5	6	3

throughout schools in Canada. Two questions brought strong agreement among the majority of teachers. These two questions dealt with the requirement of a physically challenged student to take physical education and the improvement of physical fitness by participation in physical education. Seven strongly agreed and seven agreed that physically challenged students should be required to take physical education and that their fitness levels can be improved. See Table 12.

Five attitudinal questions evoked responses of disagreement from the teachers. Seven teachers strongly disagreed, while five disagreed that in comparison to able bodied students physically challenged students do not like physical education. There were seven teachers who strongly disagreed, six who disagreed and one who strongly agreed that physically challenged students would benefit more from attending academic classes than they would from attending regular physical education classes. When asked if the safety of the able bodied student is at risk if the physically challenged student participates in regular physical education and if physically challenged students would benefit more from placement in special schools, five teachers strongly disagreed, six disagreed and three agreed. Three teachers strongly disagreed, eight disagreed and three agreed that it is not the job of a regular physical education teacher to instruct physically challenged students.

i. MEDICAL AND SAFETY CONCERNS

One-half of the teachers when dealing with the issues of safety felt that the physically challenged student was at risk in the physical education class. One-half were concerned for the safety of the able bodied students in the class participating with a physically challenged student in a mainstreamed environment and were uneasy about dealing with special medical problems that may arise illustrated in Table 12.

ii. TEACHER PREPARATION

The majority of the teachers instructing physical education to physically challenged individuals felt that it was part of their job to instruct these students in regular physical education, even though they felt inadequate in dealing with other components of instruction. One-half of the teachers felt it was difficult to choose activities that benefit both the physically challenged and able bodied students in regular physical education, that it was difficult to assess the skills and abilities of a physically challenged student, and that these students need too much attention in a regular physical education class.

iii. STUDENT PLACEMENT IN REGULAR PHYSICAL EDUCATION

Some of the questions examined the issue of placement of students who are physically challenged into regular physical education programs, as outlined in Table 12. Only one-half of the teachers stated that physically challenged students would benefit more from placement in special physical education classes for physically challenged students only, rather than placement in regular physical education class. An important observation was that most teachers disagreed that physically challenged students would benefit more from placement in special schools for physically challenged students only. They disagreed that they would benefit more from attending academic classes, than they would from participating in physical education classes and that it would be difficult for able bodied students to benefit maximally when a physically challenged student is part of a mainstreamed class. The majority of teachers disagreed that students need skill and fitness upgrading before they enter integrated physical education classes.

Chapter V

DISCUSSION

The results of this study suggest that there are a lot of positive things that have come about because of mainstreaming in physical education, but there are still a number of problems that exist with the placement of physically challenged students into regular physical education programs. The results indicate that there are many factors which influence the difficulties teachers are having in the mainstreamed environment. These factors include lack of background information on the student, the lack of knowledge on disabilities, adaptive programming and other available resources. Some teachers were concerned about the medical and safety of the physically challenged student, their placement and participation in physical education and equipment and rule modifications.

To best examine these factors it is necessary to look at the specific problems in more detail. Teachers have identified a number of key areas for discussion.

I. TEACHER QUESTIONNAIRE

A. BACKGROUND INFORMATION

Teachers received information on the students they were teaching through medical forms (four) and assessments (four) that were included with other academic information in the students' school records. Background information is very important when a physically challenged student enters a physical education environment. Information about the individual student, his/her disability and his/her needs are important for a teacher to be informed about.

The most popular means of getting information was through parent meetings (five), in which the student's condition and abilities were discussed.

The teachers (eight) who had received background information felt more informed about the status of the student they were teaching. Some teachers felt more comfortable and prepared knowing the background information on the student, while others who lacked the information felt apprehensive having the student in their class.

There were six teachers who received no background information on the students they were instructing. The lack of background information a teacher receives on a student may be detrimental to the physically challenged student, other students in the class and to the teacher. It is very difficult to plan a teaching lesson and teach a

class when the physical, emotional and social needs of the individuals in the class are unknown. Being uninformed about a student's condition poses a great risk to all involved. Safety and liability factors could become a major problem if background information on a student is unknown.

i. MEDICAL AND SAFETY CONCERNS

Teachers instructing physical education classes should be concerned with the health and safety of every individual in the class. Factors such as severity of disability, the use of medication, the mobility aid used, the number of students in the class and the degree of knowledge of the disability will affect the medical and safety concerns. The five students in this study who received medical exemptions, received them because of legitimate medical reasons, the administrator had difficulty in programming or the student received their physical education credit by being involved in community activities.

Teachers instructing spina bifida children were afraid of them falling on their heads or getting hit with an implement because of the shunts in their head. Half of the teachers were concerned about the safety of the other students in the class because of the possibility of colliding with a student in a wheelchair, especially with games that involve a lot of movement.

One-half of the teachers had medical and safety concerns about the physically challenged student they were instructing. Their concern may have been in part due to the lack of background information and their lack of knowledge and resources in dealing with a particular disability.

The lack of knowledge and information on a student may produce a very dangerous environment for the teacher, the physically challenged student and the other students participating in the class.

B. ATTITUDES ABOUT TEACHING PHYSICALLY CHALLENGED STUDENTS

Very often a teacher's attitude may affect the students' participation in a physical education class. Attitudes are deemed important if successful mainstreaming is to take place. The attitudes of a teacher may be related to the school setting and the background of the teacher's previous experiences with physically challenged individuals.

Comment 018 ("good attitude from a previous experience") was from a teacher who had a good attitude and it typifies an individual who has been in an environment with positive experiences. A different reaction may occur in a situation where it was difficult to work with a particular student, who is physically challenged.

If teachers go into a situation with a positive outlook, with no expectations about a student it may create a better atmosphere for all involved. Comments 020 ("regard it as a challenge") and 021 ("no preconceived attitudes") were made by teachers who strongly believe in such an approach because they regard the experience as a new challenge and have no preconceived attitudes.

It is very realistic to ascertain, as in Comment 022 ("it is an individual thing and it depends on the student") that for each situation, depending on the physically challenged student, a teacher may or may not develop a positive attitude. Attitude depends on past experiences, background information, knowledge and availability of pertinent resources. Data from this study suggest that feelings about mainstreaming physically challenged students are mixed on a number of issues.

Over the past twenty years mainstreaming has become a very popular means of educating able bodied and physically challenged students together. Many teachers have had to realize that it is something they have to accommodate and accept because it is going to continue. Even though attitudes towards mainstreaming in this study for the most part are positive, there are still many problems that must be overcome in order that mainstreaming becomes a very smooth transition for teachers instructing physical education programs to physically challenged.

Comments 026 ("it is happening and is a reality...it will not cease to exist and it will increase if anything") and 028 ("mainstreaming is something we have to accept because integration is taking place in schools") illustrate that teachers are aware that mainstreaming is a reality within the school system. Teachers must provide programs that meet the growing needs of physically challenged students in physical education. Mainstreaming is not something that can be ignored by any teacher because it may affect them in one way or another.

Attitudes are established or improved by having a student mainstreamed in a regular physical education program, as stated in Comments 023 ("I like the mainstream idea"), 024 ("it improved the attitudes of other students seeing how hard she had to work to do the same things they were"), and 027 ("mainstreaming is very important for all students"). It is beneficial for able bodied and physically challenged students to take part in activities together, to create a better understanding of each others' capabilities and a sensitivity towards what they deal with on a daily basis.

C. TEACHER PREPARATION

Availability of resources, knowledge and skills in the areas of disabilities, adaptations and modification in physical activities, class involvement and participation and liability may be factors that inhibit the existence of

some successful mainstreaming programs. These areas are all very important, in order that the teacher feels confident with his/her teaching skills and abilities to mainstream a student appropriately.

There were two teachers' aides working with two of the students who were in this study. If these students did not have an aide, the teacher would have had difficulty integrating the students into his/her physical education programs. If some of the other students in this study would have had an aide, they may have been able to participate more successfully.

The majority of teachers in this study agreed that mainstreaming has benefitted both the able bodied and physically challenged. It allows the other students in the class to witness the predicaments they get into. One teacher felt that mainstreaming was advantageous for socialization purposes, but for skill development to be enhanced it would be of greater benefit for the student to be in a segregated environment. At times it may be difficult to accommodate the needs of able bodied and physically challenged together. If the students were involved with others confined to wheelchairs, their needs may be better met. If students are mainstreamed they must work as a group. If they cannot function this way, they should be in a smaller class, a segregated environment or with someone on a one-on-one basis.

A large percentage of the teachers instructing physically challenged students in physical education felt unprepared to instruct in their physical activity environments. A lack of knowledge, resources and experience have placed these teachers in a position where they feel helpless and ill-prepared for instructing a physically challenged student.

Comments 043 ("without the background knowledge I could not attempt to prepare adaptations"), 046 ("I did not feel prepared because I never had any training or experience with the physically challenged"), 047 ("I have no physical education background or training ") and 052 ("do not feel prepared teaching physical education because I have never taught it before and I feel I lack the knowledge and skills") represent the feelings of a number of teachers' level of unreadiness in the physical education class. Most teachers were not prepared in their university programs, the practise teaching program or were subsequently provided with inservices or resource material on physically challenged students. Teachers are nervous, scared and unsure about what the student is capable of achieving, as stated in Comment 044 ("I was nervous, scared and not sure what he could do or how much he could accomplish"). Being somewhat unprepared for a physically challenged student in a physical education program makes a teacher feel very uncomfortable.

There are many different facets to teaching physically challenged students. Responses from teachers ranged from keeping the student physically active, to structuring appropriate activities, to motivating the student. A teacher may have difficulty instructing a student because of his/her unwillingness to participate. If the student lacks the motivation to participate in a physical education class, it becomes very difficult to instruct him/her. Teachers may have to use a variety of techniques to involve a student in participating in their class. Two teachers felt they had no difficulties with the instruction of their student because they felt in control of their situation.

Twelve teachers had difficulty adapting exercises, drills and games outlined in the Alberta Education physical education curriculum. The teachers are given a minimal amount of guidance, resources and education, in order that they can implement modifications to suit the physically challenged student. The existing physical education curriculum must be revamped to include more information on mainstreaming the physically challenged student into a regular physical education class.

Some of the teachers in the study encountered difficulties because of their personal feelings about the student and their situation. Possibly because of lack of information about the individuals' disability and lack of ideas about the student's involvement, may have led the

teachers to a situation of unpreparedness, frustration and feelings of inadequacy. There were only two teachers in the study who felt they did not encounter any difficulties, not necessarily because they were more prepared, but they felt more in control of their situation. This resulted because the student had a very flexible program or the teacher had had previous experiences adapting activities.

The extent of preparedness, the knowledge of the disability, and the ability to make adaptations in the physical education program was not dependent on the particular university degree. The major factor seemed to be the previous experiences a teacher had instructing a student with special needs. Nine of the fourteen teachers had no previous experience. Four teachers had experiences with a student in a wheelchair, a mentally handicapped student, a hearing and visually impaired student. These comments appeared in the interviews. These teachers felt more at ease in an environment with a physically challenged student, but each student had such an individual disability that there may be no learning overlap between students.

The two teacher assistants and two of the teachers in this study participated in seminars dealing with integration. These sessions took place three to five years ago. One aide found the seminar useless because they focused on having a gym set up for physically challenged students, rather than for regular students. One of the teachers went

to an adapted seminar that he stated was not beneficial in assisting him in the mainstreaming of a physically challenged student. The other teacher and aide had attended a seminar on totally blind students, which was not applicable for instructing a student in a wheelchair or who uses braces. No one had been to an inservice or workshop within the past two years.

Resource material in the area of disabilities and program adaptation seemed non-existent from the viewpoint of most teachers. Teachers were having a very difficult time mainstreaming these students because there was very little material or known consulting personnel available to them to assist in their program planning and the actual implementation of the student into the regular physical education class. There is a lack of resource materials available in this area, but it seems that the ones that do exist are not known about or are not used. Teachers must be informed through resource materials, manuals on activity adaptations and modifications, and school board physical education consultants. This must be done so that teachers are more knowledgeable and comfortable in the teaching environment, where physically challenged students are participating.

D. PHYSICAL EDUCATION PARTICIPATION

The amount of time and participation in a physical education class varied amongst all of the physically

challenged students. It was positive to note that all of the students were participating, but to various extents. The majority attempted to integrate the students as best they could, but at times, especially in large classes, it was difficult to facilitate.

It is very positive that the physically challenged students were participating in a regular program, but we have to wonder if they are really getting a quality physical education program when the teachers lack the background information on the student, and lack the knowledge and resources in order to adapt curriculum activities.

The students in this study were involved in a number of physical activities. Floor hockey, fitness activities, and basketball were curriculum programs where physically challenged students took a very active role. Two of the fourteen students were not involved in basketball, which was unusual because they were active participants at the summer basketball camp. Teachers found it easier to adapt and integrate students into a variety of the fitness activities, including the Canada Fitness Awards (CFA) and floor hockey games. There were a number of adaptations and modifications that teachers made to the CFA to accommodate students in wheelchairs. In the twelve minute endurance run and the fifty metre run the students performed by wheeling the distance in their wheelchairs. For the shuttle run activity the bean bags were placed on the students' chairs, when they got to the line. This was selected instead of the usual

technique of bending over to pick up the bean bag. The push ups and partial curl-ups were performed in terms of the regular format. Difficulties arose with the partial curl-ups, when a student wore a back brace, which impeded his/her abdominal movement. The standing long jump became a sitting task, with lower limb explosive power still being the factor being tested. A single thrust, with one push from the wheelchair tire rims is performed from a given mark and the distance covered was measured. The majority of teachers just adapted the running events and eliminated the others. Because there are no norms for this population many teachers use a pre-test and post-test method of measurement.

Adjustable basketball hoops, the use of garbage bins, the use of a volleyball or smaller sized basketball, practising scooping the ball up the side of the chair, taking two pushes with the wheelchair tires to modify the travelling rule, were all adaptations teachers made to incorporate physically challenged students into their basketball units.

The stick for floor hockey was easier to hold when the stick was taken out of the plastic holder. For the amputee students it was easier for them to perform, while they were out of their chairs. All but one student in this study took part in this game. One-half of the students either played defence or goaltender. They played these positions because they enjoyed it, were not mobile enough to play other positions or it was the easiest spot to place them. Some

teachers did not know how to place the student in a more offensive position.

Softball adaptations were also developed: 1) to use a shorter or plastic bat, so it was easier for a person in a chair to manoeuvre; 2) having the ball set on a pylon, so the student did not have to contend with a moving ball coming towards him/her; 3) just going to first base and back to homeplate, instead of having to go to all of the bases, and having everyone in the field touch it before the ball is thrown to homeplate.

At the elementary level, children's games were very popular. A number of variations of Tag were played, with no adaptations. In the game of Matball, instead of the pitcher rolling the ball to the student, the student was given the ball, he/she would throw it instead of kicking it, then he/she wheels himself/herself around the bases. The object is to hit the person with the ball as he or she is between bases. The individual would get hit on the wheels, instead of the legs. Sometimes a pinch runner was used. Another common game was Doctor Doctor, which is similar to dodge ball. The object of the game is not to get hit with the ball. If a physically challenged student was hit he/she would put up his/her hand, instead of lying on the ground. Parachute games were also played on occasion.

It was very common for the five students who participated in weight lifting activities to use free

springboard, bench and hoop activities to the best of their ability. The students who could not walk would slide on the balance beam instead of walking on it. On the high bar they would swing back and forth, with a large mat beneath the apparatus in case of a fall. Some students could accomplish pencil rolls and somersaults, climb up ropes and swing on the rings for strength activities. Students who lacked the strength and mobility did mainly floor exercises and used the trampoline.

E. AVAILABILITY OF RESOURCE MATERIAL

The majority of the teachers in this study are in need of a number of different resource materials on disabilities, nature of activities, support mechanisms and guidance as to how to prepare themselves and be able to provide a successful program for physically challenged students. Teachers require more preparation and advanced warning that a physically challenged student will be attending their physical education class. Teachers require more resource material to assist them with their instruction and support from the administration in their schools and from the Department of Education. Teachers need alternatives to the existing options they have at the present time.

II. WRITTEN RATING SCALE

A. PHYSICAL EDUCATION PARTICIPATION

There was strong agreement in this study that physically challenged students looked forward to physical education classes and enjoyed their physical education programs. These attributes lend themselves to positive attitudes about and success in the mainstreamed physical education environment.

More than one-half of the physically challenged students in this study usually participated in individual activities. The other half were involved in group games in physical education. Students had difficulties interacting in group activity sessions because of their disability, mobility difficulties and the teachers difficulty adapting games and activities. These are major reasons why most students were involved in individual activities. One-half of the students were involved in the main action in group games and the students that were involved tackled physical tasks with great interest.

One-half of the teachers agreed that it was appropriate for physically challenged students to be in regular physical education programs, rather than special education programs. Teachers felt that the students would benefit more in a placement in a regular school, compared to a special school. Many felt that able bodied students would benefit maximally with a physically challenged student in a

mainstreamed class. Most teachers felt there was no need for skill and fitness upgrading before a physically challenged student entered a regular physical education program.

There was a high rate of participation of physically challenged students in physical education classes in this study. This group of fourteen students were an exception in the physically challenged student population. These students were all involved in the Alberta Northern Lights and Research and Training Center for the Physically Disabled Wheelchair Basketball Children's Summer Camp. The majority of them were also involved in other sports and recreation programs throughout the year, which indicates they are a fairly active group of individuals. Because of their involvement in community programs, their experiences and skill level have allowed them a more advantageous position in a mainstreamed physical education program. They tended to be quite active in a number of physical activities. Students were influenced by their participation in community based programs to take part and be involved in their school program.

B. GYMNASIUM EQUIPMENT

Physically challenged students are involved in regular physical education programs and participate in individual and group activities, using regular gymnasium equipment. Gymnasium equipment was rarely adapted for students,

although sometimes depending on the activity the equipment was adapted. These adaptations were made to the size of the playing area, the length of the implement used in an activity, number of individuals participating or rule modifications.

C. ATTITUDES OF TEACHERS TOWARD MAINSTREAMING

The majority of teachers felt very favorably about physically challenged students being required to take physical education and felt that their fitness levels could be improved by participation in regular physical education programs. The teachers' attitude toward involvement of these students was very positive. This compares to the Watkinson and Bentz (1985) study where 98.5% of the teachers felt students could increase their physical fitness levels and that 88.4% believed physically challenged students should participate in physical education programs.

Teachers agreed that physically challenged students liked physical education as much as their able bodied peers and that they benefit from physical education as much as the other academic courses. Watkinson and Bentz (1985) stated that 91.7% of the teachers said that the students enjoyed physical education and 91.1% said that they would benefit more from attending physical education, rather than academic classes as substitutes. Most teachers agreed it was their job to instruct the physically challenged student in physical education.

I. MEDICAL AND SAFETY CONCERNS

One-half of the teachers felt that the physically challenged student was at risk in the physical education class because of their disability, mobility aid, a low skill level and liability factors. One-half were concerned about the safety of the able bodied students in the class participating with a physically challenged student in a mainstreamed physical education program and were uneasy about dealing with special medical problems.

II. TEACHER PREPARATION

Even though the majority of teachers felt it was their job to teach physically challenged students in a mainstreamed physical education environment, a lot of them were concerned with the difficulties involved in this process. These teachers had a great deal of difficulty choosing activities to benefit all the students in the class. There were also a number of problems assessing the skills and abilities of a physically challenged student. One-half of the teachers felt very strongly that these students require too much of the instructors' time and attention. Watkinson and Bentz (1985) found in his study 67.5% felt it was difficult to choose activities, 46.2% found it difficult to assess skills and abilities and 37.0% felt physically challenged students took too much attention from one teacher. These issues must be addressed by Alberta Education, in order that teachers feel more

prepared with what they are doing.

III. STUDENT PLACEMENT IN REGULAR PHYSICAL EDUCATION

A key issue in mainstreaming is the placement of physically challenged students into regular physical education programs. In this study one-half of the teachers stated that physically challenged students would benefit from placement in special physical education classes for physically challenged students only, rather than placement in regular physical education classes. The majority of teachers disagreed that physically challenged students would benefit from placement in special schools for the physically challenged. They stated that the physically challenged student would not benefit more from attending academic classes, than they would from participating in physical education classes and that it would not be difficult for able bodied students to benefit maximally when a physically challenged student is part of a mainstreamed class.

Physical fitness and skill levels are important components in a physical education environment. The majority of teachers felt that physically challenged students did not need skill and fitness upgrading before they entered a mainstreamed physical education program.

The majority of teachers in this study are in need of a number of different resource materials on disabilities, nature of activities, support mechanisms and guidance as to

how to prepare themselves and be able to provide a successful program for physically challenged students. Teachers require more preparation and advanced warning that a physically challenged student will be attending their physical education class. They require more resource material to assist them with their instruction and support from the administration in their schools and from the Department of Education. Teachers also need alternatives to the options currently within the existing curriculum.

Chapter VI

CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

This study examined some of the problems that exist when mainstreaming physically challenged students into a regular physical education program. The placement of physically challenged students into regular physical education programs is done quite often in our school system. Four areas of mainstreaming were examined: (1) the need for teacher support when mainstreaming, (2) teacher attitudes, knowledge, abilities and resources in a mainstreamed environment, (3) preservice and inservice programming and (4) the need for adaptations to be made to the Alberta Education Curriculum. Fourteen teachers, three females and eleven males comprised this sample and provided information on some of the problems they were each having mainstreaming physically challenged students into their school physical education programs. Information from these fourteen teachers was provided by a set of oral questions and a written rating scale. These teachers worked with an exceptional group of fourteen physically challenged students because they were all participating at their schools.

It was found that in about half of the cases, teachers received little or no background information on the physically challenged student when they arrived in their physical education class. In a number of circumstances they were given no information on the disability or if there were any medical or safety concerns they should have been made aware of. This caused a number of teachers to be apprehensive about the student being in their class.

The attitudes of most teachers in this study were very positive towards instructing a physically challenged student in physical education, even though they were very aware of the problems that exist with mainstreaming. They cited lack of knowledge and resources as major drawbacks to their abilities to mainstream physically challenged students appropriately.

Many teachers were not prepared to mainstream physically challenged students in physical education because they lacked the preservice education during their university years. Only two of the teachers attended any workshops or inservices dealing with adapted physical education. The majority of teachers did not use or were unaware of the resource materials available to them.

The degree of participation by mainstreamed physically challenged students in regular physical education varied. The majority of students participated in only some of the activities that are outlined in the

Alberta Education Curriculum (1983). Some of the ~~students~~ had only weekly 40 minute physical education classes, while others had 180 minutes per week. This was dependent on the timetable of each school.

CONCLUSIONS

There are a number of factors that must be addressed if the successful mainstreaming of physically challenged students is to take place in our school system. These factors interact to influence the success of mainstreaming in the school system. Most teachers need proper support resources in a number of areas, otherwise mainstreaming will be extremely difficult for teachers who have no training or experience in instructing physically challenged students in regular physical education programs. The programs will only be effective when they have met the needs of the individuals they serve. This can only be accomplished through the continual training of quality personnel to provide physical education for physically challenged students, safely, successfully and in the least restrictive environment.

The sample in this study was small and not truly random, so statistically speaking, the results may not be generalized to other physically challenged students and all statistical differences must be treated with caution. The study has been descriptive and exploratory in nature, not

experimental. It is impossible to determine causal relationships through descriptive studies, but it is recognized that descriptive information on mainstreaming would contribute to an understanding of the status of mainstreaming and it would alert researchers to possible questions that require study. While the conclusions derived from this study may further our understanding of some of the problems that exist teaching physically challenged students, investigation of such a small sample limits the generalization of the results to other groups of physically challenged students. This study provides a comprehensive picture of what is happening in the field of physical education programs for physically challenged students and will hopefully stimulate reflection and action on improving physical opportunities for the physically challenged.

Studies and projects involving the physically challenged provide exciting and important directions which can, should and must be applied to programs. Quite often these reports focus on research paradigms, design, statistical methodologies, instrumentation, complicated analysis and recommendations for follow-up research, rather than implications for programs. The level of significance is of little relevance to most teachers, whose major interests and concerns are ways in which the results can assist the physically challenged population they teach (Stein, 1985).

REFLECTIONS

SUBJECTIVE ANALYSIS

Throughout this thesis the author has been immersed within the content information of the topic area and thus, may have slanted the writing because of personal attitudes or biases. During each interview the author went in prepared to hear certain comments dealing with each question. This may have biased the way the question was asked or the response. The author has tended to interpret the data through the perspective of the current trends in mainstreaming.

The author has a strong interest in the area of mainstreaming physically challenged students into regular physical education programs. Teachers lack the knowledge, education and resources to instruct the physically challenged in regular physical education. There needs to be cooperative intervention in order to resolve problems that prevent our meeting the physical education needs of physically challenged students. We must consider the areas of certification to ensure that competent individuals are teaching physically challenged students. The physical education program must be monitored by the board of education to ensure quality education is taking place. Funding must be available to prepare teachers and researchers, and also provide for the inservicing of teachers about the physically challenged, as preservice

training of teachers will not meet the requirements for qualified adapted physical educators in the field. If future years are to prove to be beneficial for regular and adapted physical education, then a concerted effort must be made by those persons responsible for providing physical education to physically challenged students. Without this action, teachers will be unprepared and students will not be provided with a quality physical education program.

RECOMMENDATIONS

The findings from this study have a number of implications for improvements in the mainstreaming process of physically challenged students in our school system. These include:

1. There is a need for teacher support from the school administration, the school board, physical education consultants, and universities when mainstreaming physically challenged students during regular physical education classes.
2. There is a need for provision of program resource materials to teachers on how to effectively integrate physically challenged students into regular physical education.

3. There is a need for university courses, in education, physical education and special education, to provide information on how to teach physically challenged students in mainstreamed physical education programs.
4. There is a need for ongoing practical workshops and inservices for teachers dealing with how to mainstream the physically challenged student into regular physical education. In these workshops teachers should deal with all the facets of the mainstreaming process as currently understood.
5. There is a need for more dissemination of background information about students and knowledge about disabilities, in order that the teacher is more aware of the physically challenged students needs.
6. There is a need to provide support personnel (teacher aides) with resource materials and inservices to upgrade their skills in order that they can affectively assist teachers instructing physically challenged students in mainstreamed physical education programs.
7. There is a need for Alberta Education to keep abreast of the services and the needs of teachers instructing physical education in mainstreamed programs.
8. There needs to be more research information in adapted physical education disseminated from universities to the physical education teachers within the school system.

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APPENDIX A

TEACHER INTERVIEW ORAL QUESTIONNAIRE

TEACHER INTERVIEW QUESTIONS

1. What kind of background information, if any did you receive on this student when they arrived in your physical education class?
Probes: previous school records/assessments/medical forms/parent information
2. Did you have any medical or safety concerns having a physically challenged student in your program?
3. Have your attitudes about teaching a physically challenged changed since this student has been in your class?
4. What do you think about the increased demand for mainstreaming in the school system, as far as placing students into regular physical education programs?
5. Do you think it is advantageous for this student to be in a mainstreamed program or would they benefit more in a segregated setting?
6. Did you feel prepared when this student arrived in your class and what problems did you feel you would encounter?
7. What has been the most difficult aspect of teaching this student?

8. a) Has your university training prepared you in teaching this student?
b) Have you been to any adapted physical education workshops or inservices?
c) Is there any adapted physical education resource material available to you in your school or district?
9. What is the percentage of time this student is actually participating and involved in your physical education class?
Probes? periods per week/time per period
10. What activities does the student take part in and which activities have you modified or adapted?
11. What types of information would you like to be made readily available to yourself, so that you feel more prepared and knowledgeable teaching this student in physical education.

Probes: resource material

APPENDIX B

MAINSTREAMING RATING SCALE WRITTEN QUESTIONNAIRE

MAINSTREAMING RATING SCALE

1. This student looks forward to physical education classes.

Nearly Always Usually Sometimes Rarely

2. This student is instructed on an individual basis.

Nearly Always Usually Sometimes Rarely

3. This student participates in individual activities.

Nearly Always Usually Sometimes Rarely

4. This student participates in group games.

Nearly Always Usually Sometimes Rarely

5. This student is involved in the main action in group games.

Nearly Always Usually Sometimes Rarely

6. This student interacts easily in group activity sessions.

Nearly Always Usually Sometimes Rarely

7. This student tackles physical tasks with great interest.

Nearly Always Usually Sometimes Rarely

8. This student uses gymnasium equipment.

Nearly Always Usually Sometimes Rarely

9. Gymnasium equipment is adapted for this student.

Nearly Always Usually Sometimes Rarely

10. Rule changes in games have been implemented for this student.

Nearly Always Usually Sometimes Rarely

TABLE 12

ATTITUDES OF TEACHERS TOWARDS MAINSTREAMING OF PHYSICALLY CHALLENGED STUDENTS

QUESTION (Adapted from Watkinson and Bentz (1985))	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
a) A physically challenged student should be required to take physical education.	7	7	0	0
b) In comparison to able bodied students, physically challenged students do not like physical education.	1	1	5	7
c) The physical fitness of the physically challenged student can be improved.	7	7	0	0
d) The safety of a physically challenged student is at risk in a physical education class.	3	4	5	2
e) It is difficult to assess the skills and abilities of a physically challenged student.	2	7	4	1
f) Physically challenged students would benefit more from attending academic classes than they would from attending physical education classes.	1	0	6	7
g) The safety of the able bodied students is at risk if the physically challenged student participates in regular physical education classes.	0	3	6	5
h) Physically challenged students would benefit more from placement in special schools for challenged students only than from enrolment in mainstream schools.	0	3	6	5
i) It is difficult for able bodied students to benefit maximally when a physically challenged student is part of a physical education class.	1	5	5	3
j) It is difficult to choose activities that benefit both the physically challenged and able bodied students in a physical education class.	2	8	3	1
k) I feel uneasy about dealing with special medical problems that may arise when a physically challenged student is participating.	0	7	4	1
l) I feel that physically challenged students need skill upgrading before they enter integrated physical education classes.	1	3	8	2
m) Physically challenged students need too much time and attention in a regular physical education class.	0	3	9	2
n) It is not the job of a regular physical education teacher to instruct physically challenged students.	0	3	8	3
o) Physically challenged students would benefit more from placement in special physical education classes for physically challenged students only rather than placement in regular physical education classes.	0	5	6	3

APPENDIX C

PARENT LETTER

December 18, 1985.

135

Dear :

The Alberta Northern Lights Wheelchair Basketball Society is in the process of developing a research study, to be completed in the 1985 - 86 school year. This study will examine the mainstreaming of students who use wheelchairs, canes or braces, into physical education classes at their schools.

Integration in physical education is a difficult problem without the proper support services. In order to develop mainstreaming to its full potential it is a necessity that physical education teachers be given as much support as possible.

For the purpose of this study we will be using basketball players from the summer basketball camp held in Red Deer, Alberta, which you attended. Also, to ensure success, the project requires some feedback from you. In the near future, we will be mailing out questionnaires to the students and their parents, as well as interviewing their physical education teachers.

We would appreciate your involvement and co-operation in this study. This study will examine the need for teacher support in mainstreaming students into physical education classes as defined earlier. Could you please answer the information on the enclosed form and mail it in the self-addressed envelope before January 6, 1986, because we can begin this study early in January.

If you have any questions, feel free to contact me at 433-9918(H) or 432-3182(W), or Gary McPherson at 439-5520. Thank you.

Sincerely,

Leanne Squair
Project Co-ordinator
(For Gary McPherson,
General Manager)

LS:dm
Encl.

APPENDIX D

STUDENT FORM

NAME OF PARENTS:

NAME OF CHILD AT BASKETBALL CAMP:

ADDRESS:

TELEPHONE:

SCHOOL CHILD ATTENDS:

ADDRESS OF SCHOOL:

PRINCIPAL OF SCHOOL:

NAME OF PHYSICAL EDUCATION TEACHER:

APPENDIX E

LETTER TO SCHOOL ADMINISTRATORS

The quality of this microfiche is heavily dependent upon the quality of the thesis submitted for microfilming.

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THÈSES CANADIENNES

NOTICE

AVIS



Alberta Northern Lights Wheelchair Basketball Society

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Rm. 7127 Aberhart Centre

11402 University Avenue, Edmonton, Alberta T6G 2J3

Telephone (403) 439-5520

February 28, 1986

Honorary Chairman
Fund Raising Campaign
JOHN WILKINSON

Chairman
CHRISTIE GARDNER

Past Chairman
GARRY SMITH

Directors
CHUCK MOSE
BEN FOSTER
ROGER MILLS
ROBERT ROCHARE
LUC BLODIN
REG MCLELLAN
GEOFF LAMM

Special Advisor
DON GILTY

General Manager
GARY McPHERSON

Dear

The Alberta Northern Lights Wheelchair Basketball Society has developed a research study to be completed in the 1985-86 school year. The study will examine the mainstreaming of students who use wheelchairs, braces or canes in physical education classes.

Integration in physical education is a difficult problem without the proper support resources. In order to develop mainstreaming to its full potential it is necessary that physical education teachers be given as much support as necessary.

The students who will be involved in this study have all attended the Alberta Northern Lights Basketball Camp, held in Red Deer, Alberta. , a student at your school, has been one of the participants at this camp. I would like to interview this student about his/her physical education classes. I would also like to interview who teaches physical education, to find out the needs has teaching a physically disabled individual physical education. The information will be kept strictly confidential.

This study will assess if there is a need for teacher support in mainstreaming students who use wheelchairs, braces or canes. It will allow us to provide teachers with ideas and suggestions in an area where they are presently left on their own with very few resources. It may provide school boards and their staff with information that will allow them to implement an evaluation procedure as it relates to the physical capabilities of these students in physical education programs.

Could you please pass this on to . I will be contacting you in the next few weeks to set up dates and times, that I may come and interview both teacher and student. Your cooperation in this matter is greatly appreciated.

If you have any questions about this, please contact me at 433-9918(H), 432-3182(S) or Gary McPherson (General Manager of the Alberta Northern Lights) at 439-5520.

Sincerely,

Leanne Squair

LS:dm

APPENDIX F

SCHOOL BOARD LETTERS



EDMONTON PUBLIC SCHOOLS

143

April 2, 1986

MEMBER OF THE STAFF

Mr. W. A. Kiffiak
School Liaison Officer
Division of Field Services
The University of Alberta
Edmonton, Alberta
T6G 2G5

Dear Mr. Kiffiak:

Re: Research Request - "Mainstreaming Physically Disabled Students
into Physical Education" - Leanne Squair

The above research request has been approved on a permissive basis following examination by our department. The approval is subject to the condition that parental permission be obtained for those students participating in the study.

Ms. Squair should now directly contact the principals of the schools listed in the attachments to obtain final approval and to make the arrangements necessary for conducting the study.

We would appreciate receiving a copy of the results of the study as soon as they are available.

Sincerely,

EXECUTIVE ASSISTANT
TO SUPERINTENDENT

ASSOCIATE
SUPERINTENDENT

T. A. Blowers
T. A. Blowers, PhD
Director Monitoring and
Program Review

TAB:jmr

cc: R. D. Steadward
L. Squair
V. Olekshy
Principals

CENTRE FOR EDUCATION

One Kildare

Edmonton, Alberta T5H 4G9

Telephone (403) 429-6000



St. Albert Protestant Board of Education

144

60 Sir Winston Churchill Ave., St. Albert, Alberta, Canada T8N 0G4
PBX (403) 458-2060

April 9, 1986

Mr. Al Kiffiak
School Liaison Officer
Field Services, Faculty of Education
University of Alberta
341 Education South
EDMONTON, Alberta
T6G 2G5

Dear Mr. Kiffiak:

Please find attached the approved copies of your recent request for our participation in a Cooperative Activities Program on behalf of:

Dr. R. D. Steadward
Faculty: Physical Education and Recreation
Research Project Title: MAINSTREAMING PHYSICALLY DISABLED STUDENTS
INTO PHYSICAL EDUCATION

When you are ready to commence the project please contact the sample school - W. D. Cuts. The principal will receive a copy of this letter.

Yours truly,

E. M. Martin
Assistant Superintendent
Curriculum and Instruction

- enclosures

cc: Marlene Russell, Principal - W. D. Cuts School
:lm

BOARD OF TRUSTEES

Lois Hole

Don Witwicky
Chairman

Charles Schroder

Shirley McCallery

Susan Waldie



Student Services

10019 - 84 Street, Edmonton, Alberta T6A 3P8 Telephone (403) 468-3434

145

1986 04 08

Mr. A. Kiffiak
Rm 341 Education South
University of Alberta
Edmonton, Alberta
T6G 2G5

Dear Mr. Kiffiak:

RE: Request made by Dr. Steadward on behalf
of Leanne Squair: "Mainstreaming
Physically Disabled Students Into
Physical Education."

The above request has been approved in principle by the
Edmonton Catholic School District.

The researcher may contact directly the appropriate persons
with whom she wishes to cooperate.

Yours truly,

D.B. MacDougall, Ph.D.
Assistant Superintendent
Department of Student Services

DBMacD/mm

cc: Dr. R.D. Steadward
Pavillion 220, Athletic Services
University of Alberta

cc: Leanne Squair
WI 67 Van Vliet Centre
University of Alberta

cc: Annette Stremecki
Test & Research Coordinator

APPENDIX G

PHYSICAL EDUCATION CONTINUUM

CONTINUUM OF PHYSICAL EDUCATION SERVICES

Full Time Regular Physical Education.

Regular Physical Education With Adaptations

Part Time Regular Physical Education
and

Part Time Adapted Physical Education

Full Time Adapted Physical Education

(Adapted from Dunn & Craft, 1985; Goodwin, 1986; And
McClenaghan, 1981)

APPENDIX H

COOPERATIVE ACTIVITIES PROGRAM
RESEARCH APPLICATION FORM

Field Services
Faculty of Education
University of Alberta

341 Education South
432-3659
T6G 2G5

1. Instructions:

- a) This application form is to be used for research projects which constitute a major undertaking leading to a Master's thesis or a Ph.D. dissertation, and studies of similar magnitude, or lesser research projects which involve participation of human subjects.
- b) All proposed research projects involving human participants must be reviewed by the ethics committee established in each department, to ensure that ethical guidelines are followed in the conduct of the study. Once clearance is granted, a statement to this effect, signed by the chairperson of the ethics committee, must accompany this research application.

2. Organization to be Involved

Edmonton Public School System ☒

County of Strathcona ☐

Edmonton Catholic School System ☒

St. Albert Protestant/Separate
School System ☒

N.A.I.T. ☐

3. Requestor (University staff member)

Date February 24, 1986

Name (include title) Dr. R.D. Steadward

Faculty Physical Education & Recreat

Position Chairman

Department Athletic Services

Address Pavilion 220, Athletic Services

Telephone 432-3413

University of Alberta

Is this request being made on behalf of a graduate student ☒, undergraduate student ☐

If so, indicate: Leanne Squair
(Name)

432-3182
(Phone Number)

Research & Training Centre for the Physically Disabled

T6G 2H9

(Campus or Home Address)

(Postal Code)

W1 - 67 Van Vliet Centre, University of Alberta

Ph.D. student ☐

Master's student ☒

Other: _____

4. Description of Research Project - include title, objectives, procedure, evaluation, techniques, ethical considerations, etc.

"Mainstreaming Physically Disabled Students into Physical Education"

Objectives

1. To examine and assess if there is a need for teach support in mainstreaming students who use wheelchairs, braces or canes into regular physical education classes.
2. To provide information as it relates to teacher effectiveness in dealing with children who use wheelchairs, braces or canes.
3. To provide teachers with ideas and suggestions in an area where they are presently left on their own, with very few resources.
4. This study may provide school boards and their staff with information that will allow them to implement an evaluation procedure, as it relates to physical capabilities of these students in physical education programs.

5. This study will assist in evaluating what is presently being done and from there recommendations will be made in order to improve the participation of students in wheelchairs in physical education.
6. To study the need for adaptations to be made to the existing physical education curriculum, so that these students can be integrated into the program more effectively.

The research procedure for this study will entail an indepth interview with each physical education teacher at schools where students are using wheelchairs, braces or canes. Each school and physical education teacher will be contacted to set up dates and times for the interview. All teachers will be asked a number of questions, that will be tape recorded. Each physically disabled student in the study will be asked a number of questions regarding their physical education program through an interview questionnaire.

A descriptive analysis of the data collected during the interview will be analysed and results forthcoming. A pilot study involving six schools will take place prior to the actual sample data is collected.

See attached list.

5. Anticipated value to cooperating organization:

See attached sheet.

6. Suggested personnel, schools and times:

See attached list.

To take place during March and April 1986

For Office Use Only:

Approved by _____, Field Services. Date _____

Approved by _____, Central Office. Date _____

Subject to the following conditions:

- (a) A report of the results of findings of this project is required by the cooperating school system (check one) yes ☐ no ☐

- (b) Other